

001 Chicken Pox

Problem List:

Fever, itchy rash

Protocols and DD:

15A: Chicken Pox.

1D: Chicken Pox, Measles, Monkey Pox, Spotted Fever, Typhus, Scrub Typhus.

Patient Risk Factors:

Age, lack of immunization to this.

Sorting the Differential:

Chicken Pox is the only diagnosis that fits well. The rash of Monkey Pox breaks out all at the same time and the patient is sicker.

Similar Diseases:

Molluscum Contagiosum, Spotted Fever (RickettsialPox), Gonorrhea. She is too sick for Molluscum Contagiosum; she has too many blisters for RickettsialPox. Gonorrhea is very unlikely, given her being an MK and the parents denying sexual abuse.

Take-Home Lessons:

National children and MK's commonly get the diseases that all children experienced back before the days of immunization.

Disposition:

Option 2: Keep her comfortable until this runs its course.

002 Dengue Hemorrhagic Fever

Problem List:

Bruising; Fever; Bone pains; Bloody right eye;

Protocols and DD:

16B: not helpful.

1C: Dengue Fever, Leptospirosis, Relapsing Fever

60D: Dengue Fever, Arboviral Fever, Relapsing Fever, Spotted Fever

63B: Leptospirosis, Typhus, Arboviral Fever, Spotted Fever, Dengue Fever.

23A: Dengue Fever, Measles, Leptospirosis, Typhus, Arboviral Fever, Spotted Fever.

Patient Risk Factors:

His location in South Asia, his having a monkey, and there being other cases like this.

Sorting the Differential:

Leptospirosis, Dengue Fever, Relapsing Fever, Typhus, and Spotted Fever are all candidate diagnoses. Dengue and Relapsing Fever have the possible complication of spontaneous hemorrhage into the skin (bruising) and into the eye.

Similar Diseases:

Protocol B¹-2, rapid onset includes Leptospirosis, Relapsing Fever, Arboviral Fever, and Hemorrhagic Fever. He has the severe bone pain which favors Dengue Fever.

Take-Home Lessons:

Sudden onset, epidemic setting, high fever, geographic area. Rapid pulse and low BP means he's going into shock and may die.

Disposition:

You have a dilemma. If you send him out it had better be DHF rather than a contagious kind of Hemorrhagic Fever. He needs care—local clinic if they can manage, or Bangkok. Stateside docs probably cannot cope. He needs fluids, IV or otherwise, but a needle stick can trigger a bleeding episode. Management is difficult. Also, since he is an expatriate, you need to be defensive. Involve his parents in making decisions. Use antibiotic to cover the possibility of Relapsing Fever, even though that is unlikely.

¹ If you are using the sixth edition, this is a C- protocol, not B-.

003 Hepatitis, mild dehydration

Problem List:

Mild fever; Fatigue; Joint pains; Nausea and vomiting; Yellow eyes

Protocols and DD:

1B: Malaria, Brucellosis, Hepatitis, Syphilis, Amebiasis, Influenza, Lead Poisoning, Mononucleosis, Heat Illness

8A: Heat Illness, Zinc Deficiency, Hepatitis

60D: Brucellosis, Hepatitis, Mansonellosis Perstans

47: Liver Failure, Hepatitis

23D: Hepatitis

Patient Risk Factors:

Not immunized; living in developing contexts.

Sorting the Differential:

Brucellosis and Hepatitis are major possibilities; also consult fever plus jaundice in the B²-5 protocol. The diagnosis is Hepatitis since the marked jaundice plus the severe vomiting are not typical of Brucellosis. The bilirubin on the dipstick confirms that the problem is from the liver.

Similar Diseases:

Q Fever, Malaria, Tuberculosis. If he had contact with newborn animals or if you were in an area with a lot of Q Fever, then you might try a treatment.

Take-Home Lessons:

Joint pains as well as yellow eyes are typical of Hepatitis. Almost all pains are normally worse when someone is trying to sleep. If they are worse at some other time, that is remarkable and an important clue.

Disposition:

One of the first 2 options. He needs clean water and good food and a lot of rest. Pay particular attention to his nutrition. He won't eat much so what he does eat should be good quality.

² If you are using the sixth edition, this is a C- protocol, not B-.

004 HIV Infection or AIDS or TB

Problem List:

Cough, Fever, Diarrhea, Weight loss because of appetite loss, Nausea, Abdominal pain.

Protocols and DD:

37B: Tuberculosis, HIV

1B: Tuberculosis, AIDS, Visceral Leishmaniasis, Brucellosis, Hepatitis, Cancer, Filariasis

56: Malaria, Measles, Enteric Fever

9A: Depression, Enteric Fever, Demonization, HIV, Pellagra

47: Not helpful—poor hx

39: Gastroenteritis, Dysentery, Food Poisoning, Strongyloidiasis, Tuberculosis, Plant Poisoning

Patient Risk Factors:

Since his mother is dead and his father is ill, he's at risk of HIV Infection. He also might have prostituted himself (common if one is hungry enough).

Sorting the Differential:

HIV Infection. Tuberculosis is also a possibility. Mononucleosis and Toxoplasmosis are possible. See Protocol B³-10A for mental changes with a fever.

Similar Diseases:

Tuberculosis, Visceral Leishmaniasis, Measles complication. See protocol B-10 for mental changes with a fever; in particular, consider Toxoplasmosis and Brucellosis.

Take-Home Lessons:

HIV Infection characteristically causes gradual dwindle with the main symptoms being weight loss, diarrhea, and mental changes. If your protocols and DD don't point to one or two possibilities, the most likely reason is something like HIV Infection accompanied by multiple opportunistic infections.

Disposition:

Either option 1 or 2. No sense in sending out for care. It is also reasonable to check on his nutritional state and provide some support.

³ If you are using the sixth edition, this is a C- protocol, not B-.

005 Measles

Problem List:

Fever; Rash; Sore eyes; Cough; Vomiting; Diarrhea;

Protocols and DD:

1D: Chicken Pox, Measles, Monkey Pox

14A: Spotted Fever, Erythema Infectiosum, Dengue Fever, Measles

23A: Dengue Fever, Measles, Leptospirosis, Typhus, Arboviral Fever, Spotted Fever

37A: Pneumonia, Measles

Patient Risk Factors:

Unimmunized child, cold symptoms, cough, sore eyes.

Sorting the Differential:

Vomiting and diarrhea are so common in all children who are ill so these are not helpful symptoms to look up. Measles is the most likely, with Dengue Fever and Spotted Fever possible. He doesn't have enough pain for Dengue Fever. Measles is more likely since it occurs in epidemics.

Similar Diseases:

Dengue Fever, Mononucleosis, Rubella, Leptospirosis, Typhus, Scrub Typhus. Watch him and consider these if he develops symptoms that are unexpected for Measles.

Take-Home Lessons:

In Blacks a red spotted rash will appear sandpapery. The combination of a "cold" plus a significant rash is characteristic of Measles.

Disposition:

Try option 3; encourage fluids since he is dehydrated. He does not need antibiotics now since his breathing is o.k. but you need to check him daily. You need to pay special attention to his nutrition, providing multivitamins and adequate protein.

006 Measles, Pneumonia

Problem List:

Fever; Rash, red spotted; Eye pain; Cough; Loss of appetite; Vomiting

Protocols and DD:

1D: Chicken Pox, Measles, Monkey Pox, Spotted Fever, Typhus, Scrub Typhus

14A: Measles, Rubella, Syphilis, Arboviral Fever

22B&C: Leptospirosis, Measles, Typhus, Arboviral Fever

37A: Pneumonia, Measles, Enteric Fever

9A: not helpful

47: Leptospirosis, Measles, Spotted Fever

Patient Risk Factors:

Not immunized; others in the area also sick.

Sorting the Differential:

Measles, Rubella, and Leptospirosis fit the best. Consulting the disease index, Measles is the obvious prime suspect because of eye pain and the rash on the third day starting on the face and head. Because of the high fever, crackles in the lungs, and rapid respiratory rate, she also has Pneumonia which is a common complication. Her mouth is moist so she is not dehydrated (yet).

Similar Diseases:

Dengue Fever, Mononucleosis, Rubella. Watch for the development of severe bone pain (Dengue Fever), white scum on the tonsils (Mono), or clearing of the rash on the face (Rubella).

Take-Home Lessons:

The rash is red spotted but it is also rough, intermediate between the appearance in whites and blacks. Her eyes may be secondarily infected. She has red spots in her mouth. Measles is serious in malnourished children. In Africa the mortality rate is 90%. When you see the shredding and peeling of the skin, the same thing is happening inside the body, from the mouth to the anus. This causes vomiting, diarrhea, and subsequent dehydration.

Disposition:

Treat her yourself or send her to a private clinic. She needs antibiotics since she is developing Pneumonia. Find out who was exposed to her and isolate these children if you can. Pay special attention to her fluid intake and to her nutrition. If she becomes malnourished, she may die.

007 Mumps

Problem List:

Swollen face, Fever, Achiness, Abdominal pain, Fatigue, Loss of appetite

Protocols and DD:

21B: Cellulitis, Mumps, Respiratory Infection, Abscess, Burkitt Lymphoma, Anthrax.

1B: Mononucleosis, Toxoplasmosis, Mumps, Cancer

8A: Mononucleosis, Toxoplasmosis, Visceral Leishmaniasis

39: Not helpful since the fever is not high and the abdominal pain is not a major problem—it is incidental to the feverish illness.

Patient Risk Factors:

Exposed to others with a similar illness.

Sorting the Differential:

There is little pain which makes Cellulitis and Abscess unlikely. Since she was exposed to others with similar symptoms, this makes Mumps more likely than Burkitt Lymphoma. Mononucleosis and Toxoplasmosis are possibilities but the swelling is more generalized, not specifically in the lymph nodes.

Similar Diseases:

Tooth Abscess, Burkitt Lymphoma, Typhus. A tooth abscess is unlikely in the absence of significant tooth pain. Burkitt Lymphoma should get progressively larger, not reach a maximum and then decrease. She is not sick enough for Typhus and does not have the musty body odor.

Take-Home Lessons:

Don't exclude a diagnosis on the basis of the person's being immunized if the immunization is less than 100% effective.

Disposition:

Symptomatic treatment only; it will run its course and go away. Keep males away from her. Watch her to see if she recovers on her own which will confirm the diagnosis and avoid an evacuation.

008 Rubella

Problem List:

Red spotted rash with a fever

Protocols and DD:

14A: Measles, Chicken Pox, Rubella (Syphilis, Spotted Fever, Typhus, Mononucleosis).

Patient Risk Factors:

Lack of immunization against this; other cases in the community.

Sorting the Differential:

Rubella but Measles is also a possibility. The enlarged nodes in back of the neck would favor Rubella. Wait and see how long it lasts. There are no blisters but if they develop it could be Chicken Pox. The onset the second day and the absence of cold symptoms favors Rubella. The rash of Rubella clears on the face as it progresses to the rest of the body.

Similar Diseases:

Measles, Leptospirosis, Spotted Fever, Dengue Fever. He is not sick enough for either of these, and does not have the severe pains of Dengue.

Take-Home Lessons:

Be immunized! Brandon will recover fine but if his mother is vulnerable to Rubella and if she is in early pregnancy, she may lose the baby or he may be profoundly disabled.

Disposition:

Option 1: Treat him with acetaminophen and talk with his parents about immunization.

009 HIV Infection

Problem List:

Fever, fatigue, weight loss, cough

Protocols and DD:

1C: Tuberculosis, HIV Infection, Dysentery, Amebiasis

9A: Giardiasis, HIV Infection, Pellagra, Sprue

37A: Asthma, Respiratory Infection, Tuberculosis, HIV Infection, Heart Failure, Amebiasis, Visceral Leishmaniasis.

Patient Risk Factors:

Husband who died of a similar illness.

Sorting the Differential:

HIV Infection is obvious.

Similar Diseases:

Visceral Leishmaniasis, Tuberculosis. Tuberculosis may coexist with HIV and commonly does so. You can try a treatment and see if it helps.

Take-Home Lessons:

Note the large lymph nodes, multiple places on her body. In a case like this you could guess the right diagnosis right-off but it is still important to go through the process.

Disposition:

Options 1 or 3. You should comfort her and support her in her last days.

010 African Sleeping Sickness

Problem List:

Pain in right shoulder; Fever up and down; Skin red spot; Skin wound; Large lymph nodes in armpit; Swelling of the right arm;

Protocols and DD:

32: Dengue Fever, Rheumatic Fever, Brucellosis,
1C: Visceral Leishmaniasis, African Sleeping Sickness, Serum Sickness, Drug Eruption, Thallasemia
14C: African Sleeping Sickness; Rheumatic Fever, AIDS, Erythema nodosum, Brucellosis, Rat Bite Fever..
14B: Myiasis, African Sleeping Sickness, Brucellosis, Fleas
34B: Cellulitis, Abscess, Filariasis, Tuberculosis, African Sleeping Sickness, Anthrax, Rat Bite Fever
16C: Abscess, Cellulitis

Patient Risk Factors:

Geography in eastern Africa; rural savannah lifestyle; exposure to flies

Sorting the Differential:

Abscess developing is a possibility, as is Cellulitis. Filariasis, in this area of the world, should only affect the lower limbs. Brucellosis is very slow onset and the symptoms don't match very well; he feels too good. Note the white halo around the wound, giving a target-like appearance. African Sleeping Sickness, the Rhodesian type, matches exactly. Sleepiness is a late manifestation of the disease. Hence his alertness at this early stage is not a valid argument against the diagnosis.

Similar Diseases:

Lyme Disease (he's been in Africa too long), Leprosy (too rapid an onset), Serum Sickness (possible if he had taken something to cause it).

Take-Home Lessons:

Diseases can look very different early-on (as in this case) and later on (as the name implies). Although this is in the early stage, at this point it is very treatable with relatively benign drugs. If it progresses to the late stage, Ernie could end up with brain damage or he could die from either the treatment or the disease. You can't be absolutely sure of the diagnosis but since it is very possible, it needs to be confirmed or discarded, not ignored.

Disposition:

Options 2 or 5 are o.k. If he goes to Europe it must be London. This is a peculiarly tropical disease and needs the best tropical expertise available. Send a picture along with him; the rash may clear before he arrives. He is a Westerner so you must be defensive and involve the family in the decisions.

011 Amebiasis/Amebic Liver Disease

Problem List:

Abdominal pain, Fever, Weight loss

Protocols and DD:

40A: Hepatitis, Amebiasis, Ascariasis, Gallbladder Disease, Heart Failure

1B: Tuberculosis, HIV Infection, Visceral Leishmaniasis, Brucellosis, Hepatitis, Cancer, Amebiasis.

9A: Ascariasis, Hookworm, Enteric Fever, Amebiasis, Lead Poisoning, Cancer

Patient Risk Factors:

Residence in a developing country.

Sorting the Differential:

Ascariasis and Amebiasis are most likely. Hepatitis is possible but his urine being only slightly positive for bilirubin eliminates that. Ascariasis affects mostly children and should not be treated with deworming medicines initially anyway, so you needn't do anything about that at this point.

Similar Diseases:

Peptic ulcer, Heart Failure, Kidney Infection, Pneumonia. Her respiratory rate is not increased. She has no leukocytes or nitrites in her urine. She lies flat without difficulty breathing and has no swelling in her ankles. Peptic ulcer is possible but not likely because of the pain not improving with food.

Take-Home Lessons:

Amebiasis commonly presents this way. Medical books only recognize Amebic Liver Abscess but it is unreasonable to suppose that a few resident amoeba become an abscess within minutes. There has to be an incubation time between the liver being affected and a full-blown abscess being present.

Disposition:

Try a metronidazole treatment. If it doesn't work or if the pain becomes much worse, then you need to send her out. Use option 2 or 3. Be sure she gets vitamins and protein as she recovers.

012 Cutaneous Leishmaniasis

Problem List:

Skin ulcer

Protocols and DD:

17B: Presumably non-venereal: Tropical Ulcer, Zinc Deficiency, Myiasis, Tuberculosis of the skin, Cutaneous Leishmaniasis, Yaws, Diphtheria, Buruli Ulcer

Patient Risk Factors:

He lives in a rural, affected area.

Sorting the Differential:

His pain is minimal and there are no visible creatures so that leaves CL and TB as the top suspects. Yaws affects mostly children. He had no previous wound in this area.

Similar Diseases:

Tropical Ulcer, Rat Bite Fever, Buruli Ulcer. Tropical Ulcer is almost invariably on the legs and feet. He has no history of a rat bite. The edges are not undermined which makes Buruli Ulcer unlikely.

Take-Home Lessons:

This is one of many varied appearances of Cutaneous Leishmaniasis. You should keep a picture of these appearances in your mind so that you will suspect the diagnosis at various appropriate times.

Disposition:

Options 1, 2, or 3 are acceptable. This is probably too big for you to try treating. On the other hand, with its being an active infection, the surgeon may decline to treat him until it's cleared up. Communicate. Encourage protein consumption to aid healing and supply multivitamins.

013 Elephantiasis, endemic a.k.a. Mossy Foot

Problem List:

Foot pain; Foot swelling.

Protocols and DD:

60A: Filariasis, Pellagra, Mossy Foot, Visceral Leishmaniasis

61 B: Filariasis, Tuberculosis, Mossy Foot

Patient Risk Factors:

Walking barefoot on red, clay soil in an endemic area.

Sorting the Differential:

Filariasis and Mossy Foot are the prime contenders. You can't tell for sure but she does walk barefoot on red clay soil.

Take-Home Lessons:

It is very difficult or impossible to distinguish Filariasis and Mossy Foot when they are fully developed. Early on, Filariasis is worse on top of the leg and it moves down to involve the feet; the legs are usually relatively more swollen than the feet. Mossy Foot starts on the feet and moves up; the feet are relatively more swollen than the legs early on. If the soil is not red clay, then Filariasis is probable. If it is red clay, then go with Mossy Foot. Try to find local lore.

Disposition:

Have her wear shoes; there is not much else you can do.

014 Giardiasis

Problem List:

Diarrhea, Vomiting

Protocols and DD:

56: Cholera, Giardiasis, Cyclosporiasis, Cryptosporosis

47: Turista, Giardiasis, Dysentery, Gastroenteritis,

Patient Risk Factors:

Age, environment.

Sorting the Differential:

Giardiasis is the most likely so you should try a treatment for that.

Similar Diseases:

Gastroenteritis, Food Poisoning, Pellagra, Plant Poisoning. Food poisoning and Plant Poisoning are unlikely because she is too young to eat on her own and the rest of the family are not affected. You will use multivitamins anyway, so Pellagra will automatically be treated. It may be an ordinary Gastroenteritis but then she should have had a history of getting it from someone.

Take-Home Lessons:

Giardiasis is common worldwide wherever water sanitation is not ideal. The cysts are very difficult to eliminate but they do die with heating the water to 60 degrees Celsius.

Disposition:

Treat her yourself with metronidazole. Tend to her nutrition with multivitamins and some protein supplements.

015 Malaria

Problem List:

Headache, Fatigue, Fever and chills.

Protocols and DD:

19A: Malaria, Heat Illness, Meningitis, Encephalitis, Arboviral Fever, Enteric Fever, Relapsing Fever.

8A: Malaria, Relapsing Fever.

1C: Questionable since we don't know the fever pattern but on the basis of chills: Malaria, Amebiasis, Relapsing Fever, Spotted Fever.

Patient Risk Factors:

Malarious area, not taking Malaria prophylaxis.

Sorting the Differential:

Malaria and Relapsing Fever are most likely. The tender spleen area is typical of Malaria. The fever is not a complaint but a finding on physical exam. Since she had multiple chills, it was probably up and down.

Take-Home Lessons:

Use Malaria prophylaxis! Malaria is the great imitator so you need to keep watching the patient, lest the diagnosis be one of the myriad of similar diseases. Also, Malaria has a lot of complications for which she may need treatment.

Disposition:

Since Malaria is most common, that should be treated first. Check the patient for body lice. If she does not respond to the treatment for Malaria or if she has shaking chills and profound sweating separated by less than 12 hours, then you should switch to treatment for Relapsing Fever. You should watch her for the development of a stiff neck or other signs of similar diseases.

016 Malaria

Problem List:

Fatigue with decreased appetite, Fevers, Headache, Aching limbs

Protocols and DD:

9A: Depression, Malaria, Demonization, Brucellosis

1C: Malaria, Amebiasis, Relapsing Fever, Spotted Fever

19A: Malaria, Heat Illness, Meningitis, Encephalitis, Arboviral Fever, Enteric Fever, Relapsing Fever

10C: Leptospirosis, Spotted Fever, Relapsing Fever, Malaria

Patient Risk Factors:

Living in an affected area.

Sorting the Differential:

Malaria is the first consideration. She is not sick enough to have Meningitis, Encephalitis, Relapsing Fever, or Heat Stroke.

Similar Diseases:

Malnutrition, Heart Failure, Liver failure, Beri-beri

Take-Home Lessons:

Malaria, Tuberculosis, and Syphilis are the great imitators. Malaria does not usually present with the classical every-other-day shaking chills and fevers. Malaria more often presents as chronic ill-health, a kind of flu that just never goes away. Even if another diagnosis fits better, always treat Malaria. Treat it first and see what happens, if the patient is not too sick. If he is very ill, then treat Malaria and whatever-else at the same time.

Disposition:

Option 1. Support her nutritionally with vitamins and extra protein. Treat her malaria. Since this has gone on for so long, it would be good to give her malaria prophylaxis for a month.

017 Heat Illness

Problem List:

Unconscious, Headache, Fever

Protocols and DD:

5A: Malaria, Heat Illness, Sepsis, Meningitis, Encephalitis

1D: Malaria, Enteric Fever, Encephalitis, Meningitis, Sepsis, Typhus, Heat Illness, Spotted Fever

Patient Risk Factors:

Exposure to high environmental temperatures; taking allergy medications.

Sorting the Differential:

Malaria and Heat Illness are the most likely because of the sudden onset.

Similar Diseases:

Malaria, Encephalitis, and Meningitis are all indistinguishable from Heat Illness.

Take-Home Lessons:

Heat Illness is an emergency. The patient must be cooled immediately by any means possible. The longer he has such a high temperature, the more likely he will have brain damage.

Disposition:

Option 2. He must be cooled immediately by whatever means are available. You should take him to a clinic or hospital for further care. However, if that is not possible, you need to give anti-malarial medication and possibly antibiotic to cover the possibility of Meningitis.

018 Indeterminate/Malaria

Problem List:

Fever & chills (don't know the pattern), vomiting, diarrhea

Protocols and DD:

1D: Kidney Infection, Ear Infection, Roseola, Sickle Cell Disease, Meningitis, Measles

1C: Malaria, Amebiasis, Relapsing Fever, Spotted Fever

Patient Risk Factors:

Residence in a developing country.

Sorting the Differential:

Amebiasis is not likely since the onset is slower. It is useless to look up the vomiting and diarrhea problems since children with any fever are likely to have vomiting and diarrhea. Since he only has fever now, your only provisional diagnosis should be Malaria.

Similar Diseases:

Ear Infection, Measles, Typhus, Relapsing Fever. None of these accounts for the positive urine urobilinogen. Hence, Malaria is the chief suspect.

Take-Home Lessons:

When you see something this early after onset—less than a day, it is almost impossible to make a diagnosis. He may have any one or more childhood diseases or something else.

Disposition:

Options 1 or 2: Treat him for Malaria now and watch him closely to see if he develops a rash, a cough, eye pain, or other symptoms. You need to tend to his diet also, being sure that his mother is well nourished so her milk will be good quality. He should not be weaned until he is completely better.

019 Hypertension

Problem List:

Headache, High blood pressure

Protocols and DD:

19B: Hypertension, Toxemia, Kidney Failure

2A: Hypertension, Kidney Failure, Addiction, Thyroid Trouble

Patient Risk Factors:

None

Sorting the Differential:

The choice is between Hypertension and Kidney Failure. With her having a normal urinalysis, Hypertension is the obvious front-runner.

Take-Home Lessons:

Some cases are easy.

Disposition:

Option 2 is best. Don't ever treat Hypertension on the basis of one reading unless there are accompanying life-threatening symptoms. Check her again and then initiate treatment if her pressure is still high.

020 Kidney Failure

Problem List:

Whole body swelling; Fatigue; Fast respiration; High blood pressure

Protocols and DD:

13B: Malnutrition, Heart Failure, Kidney Failure, Liver Failure, Beri-beri

8A: Anemia, Heart Failure, Demonization, Kidney Failure

4C: Diabetes, Kidney Failure, Sepsis, Addiction

2A: Hypertension, Heart Failure, Kidney Failure

Patient Risk Factors:

There are none in particular.

Sorting the Differential:

Kidney Failure is a suspect diagnosis on all these differentials. The abnormal urinalysis confirms this as do her eyes which are swollen in the morning.

Similar Diseases:

Malnutrition, Heart Failure, Liver Failure, Beri-beri

Take-Home Lessons:

Eyes swollen in the morning and rough, flaky skin are distinctive. The high blood pressure is also characteristic of Kidney Failure.

Disposition:

You cannot help her. Tell her parents that she will die and try to evangelize the child. If she avoids foods with a lot of potassium (like bananas) then she may live a bit longer.

021 Polio

Problem List:

Weakness of the right leg

Protocols and DD:

62->Protocol 8: Polio, Meningitis, Encephalitis, Diphtheria, Brucellosis, Tuberculosis, Leptospirosis, Rabies, Relapsing Fever, Thyroid Trouble.

Patient Risk Factors:

Lack of immunization for Polio.

Sorting the Differential:

Since the illness associated with the weakness was only a mild Respiratory Infection, the problem is not likely to be anything causing severe illness or rapidly fatal. Therefore it is not Meningitis, Encephalitis, Diphtheria, Leptospirosis, Rabies, or Relapsing Fever. Thyroid Trouble is not common in children. This leaves Polio, Brucellosis, and Tuberculosis as the top contenders. Since she does not feel at all ill now and her only problem is the right leg weakness, this makes Brucellosis and Tuberculosis unlikely, leaving Polio.

Similar Diseases:

Botulism, Diphtheria, Beriberi, Rabies, Tick Paralysis. These are all unlikely since the illness has been going on for a month and she is not presently ill other than the right leg weakness. She is obviously not malnourished, being rather chubby.

Take-Home Lessons:

Look at the specifics of what a child has been immunized for. Being immunized for everything else did not exclude her developing Polio.

Disposition:

First totally undress her and look for any attached ticks.

Option 2. Encourage them to give her walking aids to stay mobile and arrange for her to have a good education so she can earn her way in life with intellectual rather than physical pursuits.

022 Malabsorption due to Sprue or Giardiasis

Problem List:

Weight loss, watery diarrhea, sore mouth, anemia

Protocols and DD:

8A: Heat Illness, Zinc Deficiency, Hepatitis, Malabsorption, Schistosomiasis
Mansoni.

9A: Giardiasis, AIDS, Pellagra, Sprue, Malabsorption

29B: Aphthous stomatitis, Tuberculosis, Arsenic Poison, Malabsorption

56: See B⁴-14 (**Malabsorption**)->Giardiasis, Strongyloidiasis, Sprue, Milk Intolerance, Cryptosporidiosis, Cyclosporiasis, Trichuriasis, Pellagra, Tuberculosis, Plant Poisoning, Pancreatitis.

Patient Risk Factors:

Geographic location, current and previous.

Sorting the Differential:

Malabsorption appears in all the lists and it fits well. However, this is only a syndrome with many specific diseases causing it. Hence you should consult Protocol B-14 to arrive at a diagnosis and figure out the disposition. The long duration, the anemia, and the sore mouth point to Sprue.

Similar Diseases:

Everything listed in B-14

Take-Home Lessons:

Don't stop the diagnostic process too soon, like stopping with Malabsorption. Go on to get as specific as you can.

Disposition:

Try treatments for Giardiasis, Strongyloidiasis, Trichuriasis, Cryptosporidiosis, and Cyclosporiasis, one at a time. Give multivitamins and antibiotics; he'll probably have to go back to the States if you are not successful with one of these treatments. Involve him in the decision-making.

⁴ If you are using the sixth edition, this is a C- protocol, not B-.

023 Toxemia, Depression

Problem List:

Swollen feet, Headache, High blood pressure

Protocols and DD:

61A: Toxemia, Varicose veins

19B: Hypertension, Toxemia, Kidney Failure

2A: Toxemia

Patient Risk Factors:

First pregnancy, young age.

Sorting the Differential:

Toxemia is the prime suspect and it fits perfectly.

Similar Diseases:

Hypertension, Heart Failure, Kidney Failure, Beriberi. Beriberi is a consideration because of a poor diet. It can cause Heart Failure but the second number of the BP should then be low, which it is not.

Take-Home Lessons:

It is important to be aware of Toxemia in any pregnant woman. Some will not have the headache or the swelling may be minimal. In nationals who normally run lower blood pressures, even a pressure that is considered normal in a western country might be associated with Toxemia.

Disposition:

Option 1 or 2 is o.k. Any of the options is acceptable. It depends on the social situation and what her family will consent to. You need to pay attention to her nutritional state, providing her vitamins and some source of protein.

024 Ascariasis

Problem List:

Abdominal pain; Vomiting; Constipation;

Protocols and DD:

39: Irritable Bowel, Ascariasis, Dysentery, Tuberculosis, Lead Poisoning

47: Ascariasis, Plant Poisoning

55: Ascariasis, Dysentery, Lead Poisoning

Patient Risk Factors:

Lack of sanitation, a visible worm, the patient consumes raw vegetables.

Sorting the Differential:

It appears that Ascariasis is the prime suspect though you should also check out Lead Poisoning and question the family about Plant Poisons.

Similar Diseases:

Abdominal Tuberculosis, Hydatid Disease.

Take-Home Lessons:

Ascariasis is the only kind of worm that is earthworm-size or larger. Patients and their parents usually do not identify other kinds of worms as such. This case is an encouragement to cook veggies or soak them in bleach or iodine.

Disposition:

Option 1 and 2 only since she passed these worms, but watch her; she may need to go out for surgery. Treat her with albendazole or mebendazole. She is certainly malnourished after carrying this heavy burden of worms. You need to support her nutritionally.

025 Tropical Splenomegaly, Malaria, Anemia

Problem List:

Upper left abdomen heavy/pain; Fatigue; Fast pulse; Fast respiration

Protocols and DD:

46->46B1: Cirrhosis, Malaria, Mononucleosis, Thalassemia, Tropical Splenomegaly.

8A: Malaria, Relapsing Fever

3C: Anemia

4C->36: Anemia, Dehydration, Sepsis, Shock, Stress, Kidney Failure, Addiction, Diabetes

Patient Risk Factors:

Malarious area, others with similar problems

Sorting the Differential:

Malaria and anemia are listed the most. They both come together as co-diagnoses with Tropical Splenomegaly. Malaria causes Tropical Splenomegaly which causes anemia. Malaria can also cause anemia without splenomegaly. The urobilinogen in the urine should pinpoint the diagnosis.

Similar Diseases:

Visceral Leishmaniasis, Thalassemia. Her response to treatment should confirm the TS diagnosis; Thalassemia is unlikely with a negative family history. .

Take-Home Lessons:

Don't agonize over a this-or-that decision on a diagnosis without checking out what various conditions go together. In this case Tropical Splenomegaly is a complication of chronic Malaria. Anemia is a syndrome, not a separate diagnosis. It is commonly associated with both Malaria and Tropical Splenomegaly. You will miss the urobilinogen in the urine if you use expired dipsticks.

Disposition:

Treat her yourself, perhaps through the translator. She should be on Malaria preventive medication for at least 6 months. Vitamins might be helpful also.

026 Liver failure, Schistosomiasis Mansoni

Problem List:

Swollen abdomen, swollen feet, fatigue, poor appetite

Protocols and DD:

46A: Liver failure, Malnutrition, Heart Failure, Kidney Failure, Malabsorption.

61A: Heart Failure, Filariasis, Kidney Failure, Liver failure, Chaga's Disease.

9A: Hepatitis, Schistosomiasis Mansoni, Kidney Failure, Liver failure-> B⁵-7

B-7: Slow-onset Liver Failure-> Alcoholism, Arsenic Poisoning, Brucellosis, Cancer, Drugs and herbs, Gallbladder Disease, Hemochromatosis, Hepatitis, Hydatid Disease, Schistosomiasis (Mansoni or Japonicum)

Patient Risk Factors:

Location, exposure to water with snails.

Sorting the Differential:

Liver failure is listed in all the initial protocols. This is best sorted out by referring to B-7. Schistosomiasis is a top contender since it is also listed under protocol 9A.

Similar Diseases:

Hydatid Disease, Hepatitis, Cancer, Brucellosis, Arsenic Poisoning.

Take-Home Lessons:

Don't stop with Liver Failure! Liver Failure is a syndrome, not a final diagnosis. Most Liver Failure is hopeless, but that due to Schistosomiasis has a good chance of recovery.

Disposition:

Treat with praziquantel plus bedrest and nutritional support. Any of the options is acceptable, depending on your situation.

⁵ If you are using the sixth edition, this is a C- protocol, not B-.

027 Schistosomiasis Hematobium

Problem List:

Burning pain with urination

Protocols and DD:

50C: Urinary Infection, Tuberculosis, STD, Urethritis, Schistosomiasis Hematobium

Patient Risk Factors:

From Egypt, Muslim and devout about washing before prayers, exposure to ground water, no recent sexual encounters, no signs of lung TB.

Sorting the Differential:

Gonorrhea or Chlamydia, the two STD's that cause burning urination, are still possible but Schistosomiasis Hematobium is more likely.

Similar Diseases:

STD; Urethritis, Kidney Infection, Tuberculosis, Filariasis. Kidney TB may be indistinguishable; consider this if he does not respond to praziquantel.

Take-Home Lessons:

Egypt is a hot-bed of Schistosomiasis because of the culture. Just because someone has a history of STD's doesn't mean necessarily that this episode is STD. You should check his urine again in a week and in 3-4 weeks to be sure that it is clear of blood.

Disposition:

If you have the medicine, treat him yourself. Option 1 is the only viable one.

028 Buruli Ulcer

Problem List:

Skin ulcer

Protocols and DD:

17B-2 because the back of the knee does not usually have sexual contact. Tropical Ulcer, Zinc Deficiency, Myiasis, Tuberculosis, Buruli Ulcer, Cutaneous Leishmaniasis, Diphtheria

Patient Risk Factors:

Exposure to stagnant waters.

Sorting the Differential:

The ulcer is not very painful since he didn't notice it for quite a while. It also developed slowly. The items in the differential must be found individually in the disease index. Tropical Ulcer and skin Diphtheria are painful; Zinc Deficiency ulcers occur in prior wounds. Myiasis should have visible creatures. Cutaneous Leishmaniasis occurs on parts of the body not normally clothed. A tuberculous ulcer is a possibility. Since the edges of the ulcer are undermined, this makes Buruli Ulcer the most probably

Similar Diseases:

Tropical Ulcer, Amebic Skin Ulcer, Sexually Transmitted Disease, Cutaneous Leishmaniasis, Tuberculosis of the skin, Yaws.

Take-Home Lessons:

For Buruli Ulcers, exposure to stagnant waters is critical. Also, the undermined edges of the ulcer are distinctive. No other kinds of ulcers are undermined to that extent.

Disposition:

Since Buruli Ulcer and skin Tuberculosis are both treated with the same drugs, you can try these drugs if there is a delay in sending him to a surgeon. However, he will probably need surgery. The third option is best. You should advise him to pursue a substantial high-protein diet to aid healing. Since he is an expatriate, have him make the final decision.

029 Anthrax [Diphtheria possible but unlikely]

Problem list:

Neck swelling; Short of breath; Slow respiration; Wound, right neck; Fever; Red skin

Protocols and DD:

31A: Strep throat, Anthrax, Cellulitis,

4A: Asthma, Respiratory failure;

1D: Cellulitis, Strep throat, Anthrax, Drug Eruption, Familial Mediterranean Fever.

16C: Abscess, Cellulitis

Patient risk factors:

He was exposed to cattle at work. He reports the spontaneous wound. The swelling is inside also since he's short of breath.

Sorting the Differential:

Arjja is too sick to have Mumps and this also would not account for the wound. With the swollen area not being tender to touch, Plague is not a possibility. He has no paralysis or sore throat so Diphtheria and Strep Infection are unlikely. Anthrax, and Cellulitis are possibilities. Anthrax fits the best. Per chapter 4 and protocol 4A you should worry about his breathing.

Similar Diseases

Diphtheria, Mumps, Abscess, Cellulitis, Plague, Spotted Fever

Take-Home Lesson:

Anthrax is characterized by a spontaneous wound with a black surface and massive swelling around it. If that swelling occurs on the head or neck, it can narrow the patient's airway so he has difficulty breathing.

Disposition:

Options 2 and 3 simultaneously. This man is in trouble; you may lose him anyway. If you are unable to transport him, then you should start antibiotics. The distinction between Anthrax and Cellulitis is not important since you can choose a drug that will be effective for both.

030 Brucellosis

Problem List:

Fevers and chills, eye pain, joint pains, left hip pain, headache, mental changes

Protocols and DD:

1B: Malaria, Brucellosis, Hepatitis, Syphilis, Amebiasis, Influenza, Lead Poisoning.

22B&C: Iritis, Syphilis, Brucellosis, Malaria, Dengue Fever

30B: Muscle Strain, Arthritis, Tuberculosis, Brucellosis

60D: Brucellosis, Rubella

B⁶-10A: Brucellosis, Toxoplasmosis

Patient Risk Factors:

Cattle contact.

Sorting the Differential:

In Protocol B-10A, focus on those diseases with very slow onset. Clearly Brucellosis is chief suspect for a diagnosis and it fits very well.

Similar Diseases:

Tuberculosis of the bone; Pellagra. Tuberculosis of the bone is usually in one spot only and does not migrate or involve multiple joints. Pellagra may be indistinguishable but you can cover that possibility with multivitamins.

Take-Home Lessons:

Brucellosis looks like the terminal dwindles in someone who is entirely too young to die of old age. The specific symptoms vary widely but this type of presentation is typical.

Disposition:

Treat him yourself or send him to a local hospital if they will believe you.

⁶ If you are using the sixth edition, this is a C- protocol, not B-.

031 Cellulitis

Problem List:

Fever; Pain, right arm; Reddish skin

Protocols and DD:

1D: Cellulitis, Rheumatic Fever, Pyomyositis, Osteomyelitis

33: Not helpful because she has skin pain, not listed.

16C: Abscess, Cellulitis, Dengue Fever

Patient Risk Factors:

Prior wound; relative poverty.

Sorting the Differential:

The redness is uniform over an area of her arm which is also swollen; there are borders but not distinct. Cellulitis is the most likely. It started after an injury. Protocol B⁷-6B may be helpful. The redness and swelling are not specifically over the joint and she has no specific joint pains, making Rheumatic Fever unlikely, as well as Arthritis.

Similar Diseases:

Abscess, Filariasis, Familial Mediterranean Fever. You can distinguish these by treating and watching. FMF is a possibility because, being Filipino, she has Hispanic ancestry. With no family history, however, this is unlikely. An Abscess should turn from firm to soft with time. With there being no grossly swollen limbs in the community, Filariasis is unlikely.

Take-Home Lessons:

In the tropics it is especially important to cleanse and bandage all injuries, however trivial they may be. Bacteria are ubiquitous, and infections develop rapidly.

Disposition:

Option 2 is best; option 3 is o.k. Treat her yourself with antibiotic—try penicillin first; change if necessary.

⁷ If you are using the sixth edition, this is a C- protocol, not B-.

032 Cholera, Dehydration

Problem List:

Diarrhea, vomiting, muscle cramps.

Protocols and DD:

56: Giardiasis, Cholera, Malabsorption, Food poisoning, Plant Poisoning

47: Cholera, Giardiasis

60C: Polio, Cholera

Patient Risk Factors:

Work exposure to water with poor sanitation; epidemic situation.

Sorting the Differential:

Cholera and Giardiasis are the most likely. The fishy odor implicates Cholera. The fact that it is milky water in appearance differentiates it from Malabsorption. People who have Cholera are generally too sick to eat and thus Malabsorption (which is a more chronic condition) cannot be diagnosed.

Similar Diseases:

The Choleraic form of Malaria is indistinguishable.

Take-Home Lessons:

You should be familiar with the evidence of severe dehydration in this case: the sunken eyes, wrinkled skin, and lethargic appearance. Cholera is about the only kind of diarrhea that can produce such profound dehydration in such a short period of time. Actually, a precise diagnosis is not necessary. Sudden, severe, dehydrating diarrhea is treated the same, regardless of its cause.

Disposition:

Give as many fluids as possible any way that you can—probably intra-peritoneal is the most practical. You need to pay special attention to his nutrition as soon as the diarrhea is abated. He was thin to begin with and will be profoundly malnourished by the time this illness is over. You should also cover the possibility of this being the Choleraic form of Malaria.

033 Tuberculosis, abdominal

Problem List:

Loss of appetite with weight loss; abdominal swelling; Fever

Protocols and DD:

9A: Hepatitis, Malnutrition, Tuberculosis, Schistosomiasis Mansoni, Cancer, Kidney Failure, Visceral Leishmaniasis

46: Tuberculosis, Hydatid Disease

1B: Tuberculosis, AIDS, Visceral Leishmaniasis, Filariasis

Patient Risk Factors:

Exposure to cattle and milk, father had an illness consistent with TB.

Sorting the Differential:

Tuberculosis and Visceral Leishmaniasis are the most likely. Chad's symptoms resemble abdominal Tuberculosis.

Similar Diseases:

Heart Failure, Liver Failure, Trichuriasis. Since there is no bilirubin in the urine, a liver problem is unlikely. You can eliminate Trichuriasis (a worm) by giving deworming medication.

Take-Home Lessons:

The proof of the diagnosis is in the treatment. The medications for Tuberculosis won't touch Leishmaniasis. Once his abdominal distension is reversed somewhat, then you will be able to feel how large his spleen and liver are.

Disposition:

Option 2 is the best if you are able to do it. He needs nutritional supplements in addition.

034 Dysentery, bacterial

Problem List:

Fever, Bloody diarrhea

Protocols and DD:

1C: Tuberculosis, HIV Infection, Dysentery, Amebiasis

57A: Dysentery, Enteric Fever, Measles, Relapsing Fever, Hemorrhagic Fever.

Patient Risk Factors:

Lack of sanitation

Sorting the Differential:

You should do a urinalysis to eliminate the possibility of Hemorrhagic Fever. Otherwise Dysentery fits the best and the picture is that of bacterial Dysentery, not amebic Dysentery.

Similar Diseases:

Dysentery, amebic; Malaria; Enteric Fever; Hemorrhagic Fever. The pain that accompanies each stool and the bright red blood makes bacterial Dysentery most likely. However, you should watch her for other abnormal bleeding.

Take-Home Lessons:

Bacterial Dysentery is common in developing areas and it must be treated promptly.

Disposition:

Fluids, antibiotics, see her frequently until she recovers. You should attend to her nutrition, giving multivitamins and some source of protein, to help her recovery. Malnourished patients don't do very well.

035 Enteric Fever or Typhus

Problem List:

Fever, aching all over, headache, abdominal pains, withdrawn mental state

Protocols and DD:

1D: Febrile Seizure, Malaria, Typhus, Enteric Fever, Encephalitis, Meningitis, Sepsis

10C: Dengue Fever, Enteric Fever, Typhus, Lyme Disease, Tularemia

19A: Typhus, Dengue Fever, Enteric Fever, Leptospirosis, Arboviral Fever, Relapsing Fever, Rat Bite Fever

39: Strep Infection, Pneumonia, Enteric Fever, Malaria, Dysentery, Dengue Fever, Arboviral Fever, Typhus, Scrub Typhus

5A: Malaria, Enteric Fever, Heat Illness, Sepsis, Meningitis, Encephalitis, Typhus.

Patient Risk Factors:

No immunization, national living in an impoverished area.

Sorting the Differential:

Typhus and Enteric Fever are the top suspects. They are not easily distinguishable but the treatments are compatible so you needn't distinguish. They both have peculiar body odors which are different from each other but if the patient has no peculiar odor, this doesn't help. If he reeks of garlic or ordinary BO, you'll never detect another odor at all.

Take-Home Lessons:

The diagnosis of Enteric Fever (usually known as Typhoid Fever) is difficult. The sine qua non is: 1. A significant fever that you measure with your thermometer (unless the patient is a badly malnourished child). History of a fever is not acceptable for this diagnosis. 2. Some abdominal symptoms such as pain, vomiting, constipation, or diarrhea. 3. An altered mental status—the patient acts 'out of it' or withdrawn. The condition is vastly overdiagnosed in the developing world. There are no good blood tests for it. "Your blood test shows Typhoid," is nonsense.

Disposition:

Option 1 is the way to go. Penicillin does not work for this. You should also probably treat for Malaria. It is important to tend to his nutrition to aid his recovery. Supply multivitamins and encourage fish consumption.

036 Malnutrition/Ascariasis

Problem List:

Abdominal pain, failure to thrive

Protocols and DD:

39B: Irritable Bowel, Ascariasis, Dysentery, Tuberculosis, Lead Poisoning

Patient Risk Factors:

Age, early weaning, lack of sanitary facilities in the home.

Similar Diseases:

None, when one considers that a worm was sighted.

Sorting the Differential:

The parents having sighted earthworm-sized worms clinches the diagnosis of Ascariasis.

Disposition:

Treat her for worms; support her nutritionally.

037 Leptospirosis, Indeterminate

Problem List:

Fever & chills; headache; body pains; vomiting;

Protocols and DD:

B⁸-2: Arboviral Fever, Leptospirosis, Q Fever, Relapsing Fever, Spotted Fever.

1C: Filariasis, Leptospirosis, Relapsing Fever

19A: Typhus, Leptospirosis, Arboviral Fever, Spotted Fever, Relapsing Fever

10C: Leptospirosis, Spotted Fever, Relapsing Fever, Malaria

Patient Risk Factors:

She was exposed to contaminated water.

Sorting the Differential:

Consulting B-2, you should confine the possibilities to those diseases with rapid onset, within minutes to hours. Leptospirosis, Arboviral Fever, or Relapsing Fever are most likely. Spotted Fever is also a possibility. B-2 is helpful to distinguish similar diseases with this pattern. It is too early in the course of the disease to be sure of a diagnosis, so you should be sure to watch for further developments.

Similar Diseases:

Arboviral Fever, Dengue Fever, Malaria, Q Fever, Relapsing Fever.

Take-Home Lesson:

This is a case that presents so early, it's impossible to make a firm diagnosis. Leptospirosis is characterized by the sudden onset of total body pain; chills, fever, and sweats. The fever pattern is erratic.

Disposition:

Options 1 and 4 are o.k. for now; treatments of Leptospirosis and Relapsing Fever are compatible. Doxycycline is a good choice of antibiotic since it should affect several of the possible diagnoses. Watch carefully for a rash, mental changes, or other symptoms which will change the diagnosis. You need to give her some multivitamins or urge her family to have her consume occasional eggs, milk, or cheese.

⁸ If you are using the sixth edition, this is a C- protocol, not B-.

038 Meningitis/Encephalitis/Malaria/Heat Illness

Problem List:

Headache, Vomiting, Neck and back pains, Fever

Protocols and DD:

19A: Malaria, Meningitis, Encephalitis, Arboviral Fever, Enteric Fever, Relapsing Fever

47: Heart attack, Acute Abdomen, Amebiasis, Food Poisoning, Diabetes, Kidney Stone

30A: Malaria, Meningitis, Polio, Encephalitis, Rabies

1D—not helpful or reliable since we don't know the pattern but: Febrile Seizure, Malaria, Enteric Fever, Encephalitis, Meningitis, Sepsis, Typhus, Spotted Fever

Patient Risk Factors:

None in particular except that her place of residence is within the Meningitis belt.

Sorting the Differential:

Malaria, Meningitis, Heat Illness, and Encephalitis are all possibilities. If you look them up, you will find that if you suspect one you should treat all three, so there is no problem.

Take-Home Lessons:

Don't hassle with making distinctions until you know that you have to. Meningitis onset is very sudden. Patients can die within a few hours of the first symptom. Also, it is very contagious. The author is aware of 20 school children from one school class (classes run around 60) who died within a week.

Disposition:

Option 1 is the way to go. She should be given IV antibiotics and anti-malarials. Use IM antibiotics or a stomach tube and oral forms if there is no IV. Decrease her fever and tend to her hydration also. If you cannot treat her yourself, then isolate her until she dies. Take preventive medication yourself and give it to the family. Notify the public health authorities. Do not send her out on public transport. If you can treat her and she starts to recover, you need to then support her nutritionally with multivitamins and extra protein.

039 Plague

Problem List:

Lethargy or confusion with a fever; Painful lymph nodes in left armpit; Headache

Protocols and DD:

B⁹-10A: Relapsing Fever, Plague, Meningitis, Encephalitis, Malaria, Leptospirosis, Arboviral Fever, Spotted Fever, Typhus.

33B: Cellulitis, Abscess, AIDS, Filariasis, Enteric Fever, Tuberculosis, Typhus, African Sleeping Sickness, Anthrax, Tularemia, Rat Bite Fever, Plague.

19: Typhus, Dengue Fever, Enteric Fever, Leptospirosis, Arboviral Fever,

Patient Risk Factors:

Lifestyle with traveling.

Sorting the Differential:

For Protocol B-10, you should confine yourself to those diseases with an onset of a matter of hours or hours to days. Typhus and Plague are most likely.

Similar Diseases:

Enteric Fever, Typhus, Anthrax. With Typhus the patient feels ill for several days before the fevers start; this was not the case with Dillon. Also, he does not have the musty body odor characteristic of Typhus or the bread odor of Enteric Fever. Plague but not Typhus would account for the swollen, blackened lymph node in his armpit. He does not have the massive swelling associated with Anthrax. Enteric Fever has a slower onset.

Take-Home Lessons:

Plague still occurs. The essentials are the mental changes, the fever, and the blackened, very painful and tender lymph nodes. The pains of Plague and Gout are pains that will cause a person to scream when someone walks by so the bed vibrates just a little.

Disposition:

Treat him yourself or send him to a local clinic if the place is competent. You need to be very careful about transporting him and you need to provide prophylactic medication to everyone who has any contact with him. Notify his family that he's in a bad way and involve them in the decisions. Treat the girlfriend for sure. Be sure that their nutrition is adequate; it may be hard to provide sufficient nutrition under the circumstances. You should be wary of the medical-legal ramifications of this. It would be great to send this patient on to professionally competent care but the infectious nature of the disease prevents your doing this.

⁹ If you are using the sixth edition, this is a C- protocol, not B-.

040 Pneumonia

Problem List:

Chills and fever; Rapid respiration; Cough

Protocols and DD:

1D: Enteric Fever, Spotted Fever

36: Pneumonia, Enteric Fever, Typhus, Anthrax

Patient Risk Factors:

Prior cold, onset during her recovery.

Sorting the Differential:

Pneumonia is the most likely because of its sudden onset after a cold.

Similar Diseases:

Altitude Sickness, Heart Failure, Enteric Fever, Q Fever, Tuberculosis. She has not travelled to a lower altitude and returned, making Altitude Sickness unlikely. Tuberculosis has a much more gradual onset.

Take-Home Lessons:

Respiratory symptoms are much worse at high altitudes. Pneumonia is common in almost all developing areas.

Disposition:

Send her to a lower elevation if at all possible. Keep her baby with her because he must be breast-fed or he will die. Treat her with penicillin or one of the cephalosporins or erythromycin. You need to support her nutritionally, both for her own recovery and also because of the baby.

041 Trench Fever/Body lice

Problem List:

Dizziness, Body lice, Fever up and down, Shin pain, Headache

Protocols and DD:

20: Malaria, Ear Infection, Enteric Fever, Dengue Fever, Relapsing Fever, Spotted Fever.

18: Body lice

1C: Filariasis, Leptospirosis, Trench Fever

60D: Familial Mediterranean Fever, Tuberculosis, Filariasis

19A:->2C: Trench Fever, Leptospirosis, Dengue Fever, Relapsing Fever, Spotted Fever.

Patient Risk Factors:

Homeless, urban background, body lice.

Sorting the Differential:

Relapsing Fever and Trench Fever are the most likely. Trench Fever fits better because of the prominent shin pains and the urban homeless history.

Similar Diseases:

Arboviral Fever, Enteric Fever, Leptospirosis, Relapsing Fever, Typhus.

Take-Home Lessons:

Use the C protocols whenever you can. They take account of the total picture much better than the individual symptom protocols can.

Disposition:

Treat him yourself with antibiotics. Doxycycline is effective for both Relapsing and Trench Fever but it needs to be given much longer with Trench Fever. He needs to have the longer course of antibiotics. He should hang around, if that is feasible, since there are some complications with this and it will take some time before he is all the way better. You should be sure that he gets enough vitamins and protein or he will take much longer to heal and will be on your doorstep for longer.

042 Spotted Fever, Rocky Mountain

Problem List:

Fever; Headache; Limb pain; Testicle pain; Abdominal pain, upper left

Protocols and DD:

1B: Malaria, Enteric Fever, Typhus, Spotted Fever

19A: Typhus, Dengue Fever, Arboviral Fever, Spotted Fever.

50D: Dengue Fever, Filariasis, Brucellosis, Spotted Fever

41: Mononucleosis, Enteric Fever, Malaria, Pneumonia, Kidney Infection.

Patient Risk Factors:

Malaria is initially the top contender but it did not respond to the drugs. Spotted Fever is a possibility, as is Typhus.

Sorting the Differential:

The geography fits; the rash is heaviest on the wrists. There is a fever and no response to Malaria medication.

Similar Diseases:

Enteric Fever, Measles, Leptospirosis, Plague, Typhus, Syphilis; watch for the development of the symptoms associated with these similar conditions.

Take-Home Lessons:

It is important to remember that RMSF is not only present in the Rocky Mountains. It is, in fact, much more common in the southeastern part of the USA and in Central and South America. It is a disease that must be treated on mere suspicion because it can otherwise be rapidly fatal. Only about 50% of the patients give a history of a tick bite. Some of them don't even have a rash which makes diagnosis very difficult. Even where there are good lab facilities, the tests don't turn positive until the patient is about ready to die.

Disposition:

Don't wait for blood tests! Take him home or walk to his house daily with antibiotics. Options 2 or 3 are o.k. Make sure that his nutrition is adequate.

043 Strep Infection

Problem List:

Sore throat, Fever

Protocols and DD:

29A: Respiratory Infection, Strep Infection, Mononucleosis

1D: Cellulitis, Strep Infection, Diphtheria, Mononucleosis, Anthrax, Spotted Fever

Patient Risk Factors:

None

Sorting the Differential:

Strep Infection is most likely. However, since the history is so short, you need to recheck her to see if other symptoms develop. You need to worry about Diphtheria. You also need to be monitor the treatment for 10 days to prevent the development of Rheumatic Fever.

Similar Diseases:

Mononucleosis, Diphtheria, a viral infection.

Take-Home Lessons:

The appearance of the throat is typical.

Disposition:

Options 1, 2, or 3 are o.k. Treat with penicillin. Since this is a Western family, you need to be defensive. Involve them in the decisions.

044 Tetanus

Problem List:

Jaw pain; Back pain; Back stiff, arched back; Pain, arms & legs; Muscle cramps;
Slow respiration

Protocols and DD:

29C: Tetanus, tooth problem

63B: Tetanus, Rabies

64: Malaria, Seizures, Polio, Tetanus, Meningitis, Tuberculosis, Heat Illness,
Rabies

33: Polio, Muscle strain

7B: Demonization, Polio, Tetanus

4A: Tetanus, Seizures, Plant Poisoning

Patient Risk Factors:

Had a recent burn; has not been immunized.

Sorting the Differential:

Polio and Tetanus are the prime suspect diagnoses. Looking up these two diseases, Polio is very unlikely but Tetanus fits exactly.

Similar Diseases:

Plant Poisoning due to strychnine is similar but the onset is very rapid, over minutes rather than over hours. Rabies and Meningitis can cause muscle spasm of the back and neck muscles, but not the abdominal muscles.

Take-Home Lessons:

Be immunized! This is what clinical Tetanus looks like. It is not a fun way to die. It is an easy diagnosis. Treatment is easy in theory and very difficult in practice.

Disposition:

Option 2 or 4. Most likely the clinic will not have the expertise necessary. Follow the protocol in the VMM. She may die anyway.

045 Lyme Disease or Drug Eruption

Problem List:

Fever (unknown pattern), Fatigue, Aching all over, Skin red with fever.

Protocols and DD:

1D: (not helpful); if sustained: Cellulitis, Strep Infection, Drug Eruption
14A2: Erythema Multiforme→ Herpes, Pneumonia, Lyme Disease, Drug Eruption, Tuberculosis, Leprosy, Rheumatic Fever
10C: Dengue Fever, Enteric Fever, Typhus, Lyme Disease, Tularemia
B¹⁰-2: A large number of similar diseases.

Patient Risk Factors:

She lived in California within the incubation period of Lyme Disease. She is an outdoors-type person.

Sorting the Differential:

A drug reaction and Lyme Disease should be your major considerations. On the chance that this is due to the proguanil and chloroquine that she is taking, you should take her off these and put her on something else.

Similar Diseases:

Arboviral Fever, Drug Eruption, Rheumatic Fever. Arboviral Fever may be indistinguishable but it requires merely supportive care which you will provide anyway. Drug Eruption is a serious possibility. Rheumatic Fever is unlikely in the absence of a symmetrical arthritis, but keep it in mind in case she develops such.

Take-Home Lessons:

It is difficult to diagnose illnesses in expatriates since they tend to present early rather than with fully developed illnesses. People who travel can come down with illnesses that they acquired elsewhere. It is important to take note of any travel and the incubation periods of candidate diagnoses. If she had just come from Africa you would need to consider African Sleeping Sickness.

Disposition:

Because of the possibility of a Drug Eruption, you should change her Malaria prophylaxis to something else. Then pursue options 1 or 2. You should at least consult by e-mail with a stateside physician, preferably someone well-versed in infectious diseases. You don't want to make a mistake on this one. You need to be somewhat defensive.

¹⁰ If you are using the sixth edition, this is a C- protocol, not B-.

046 Tularemia

Problem List:

Fever, Headache, Fatigue, Aching all over

Protocols and DD:

19A:->B¹¹-2: Rat Bite Fever, Tularemia

17B: Scrub Typhus, Anthrax, Tularemia, Spotted Fever, Plague

Patient Risk Factors:

He is an outdoorsman who is a hunter/trapper.

Sorting the Differential:

Tularemia is the chief suspect and it fits perfectly. Protocol B-11 is most helpful.

Similar Diseases:

Anthrax, Diphtheria, Rat Bite Fever, Scrub Typhus, STD. Anthrax and Diphtheria both have a lot of swelling. Geography is wrong for Rat Bite Fever and Scrub Typhus. An STD is unlikely socially and he has no genital complaints.

Take-Home Lessons:

Consider the environment of origin in patients recently arrived in your area in a developing country. Consider the time, from the last possible exposure to the onset of symptoms; that should accord with the incubation period.

Disposition:

Don't treat him on your own. At a minimum get e-mail advice from his family doctor at home and follow the orders. Involve Elwood in all decisions. He might be a nice guy and never sue you, but you don't know his family.

¹¹ If you are using the sixth edition, this is a C- protocol, not B-.

047 Urinary/Kidney Infection

Problem List:

Pain with urinating; Fever & chills; Back pain, left side;

Protocols and DD:

58>50C: Urinary Infection, Tuberculosis, STD, Plant Poisoning.

1D: Not helpful

63A: Malaria, Kidney Infection, Kidney Stone, Plant Poisoning

B¹²-13: is helpful.

Patient Risk Factors:

Female; sexually active; recently gave birth.

Sorting the Differential:

She appears to have a Kidney Infection or Urinary Infection. When you look them both up, it is evident that it started out as a bladder infection and moved up into her kidney.

Similar Diseases:

Tuberculosis (kidney); Sexually Transmitted Diseases. If she does not respond to treatment for an ordinary infection, then consider kidney TB. In the absence of any genital problem or history of such, an STD is unlikely.

Take-Home Lessons:

Treat Urinary Infections promptly so they don't come to this. Pain with urination is usually either an STD or else a Urinary Infection. Also, anything that causes blood in the urine can cause pain with urination.

Disposition:

Treat her yourself—have her drink a lot and treat her with antibiotics for 7-10 days. Option 2 is best.

¹² If you are using the sixth edition, this is a C- protocol, not B-.

048 Whooping Cough/Pertussis

Problem List:

Swollen eyelids, severe cough, bloody whites of the eyes.

Protocols and DD:

37: Respiratory Infection, Whooping Cough, Plant Poison, Insecticide Poison.

23E: Eye Infection, Kidney Failure, Whooping Cough

47: Whooping Cough, Kidney Failure.

Patient Risk Factors:

No immunization.

Sorting the Differential:

Whooping Cough appears on all the lists. A normal urinalysis and blood pressure would eliminate Kidney Failure as an alternative.

Take-Home Lessons:

Once you have heard this cough, you will recognize it anywhere. It is very distinctive. The main problem with Whooping Cough is nutrition and hydration. These patients cough so long and hard that they are likely to vomit as a result. Antibiotics do no good after 4 days. You should watch the friends and siblings of this patient and treat with erythromycin if/when they develop “cold” symptoms within the incubation period. Respiratory infection is a catch-all diagnosis which includes Pneumonia, Whooping cough, and many other diseases.

Similar Diseases:

None

Disposition:

Either of the first two options. Antibiotics probably won't help now.

You need to pay special attention to his nutrition. He's thin to begin with and it will be difficult, in view of his vomiting, to keep sufficient calories in his stomach.

049 Visceral Leishmaniasis, anemia/Tropical Splenomegaly

Problem List:

Fatigue, Shortness of breath, Rapid pulse, Rapid respiration, Pale eyelids, Pale tongue, Large spleen, Large liver

Protocols and DD:

9A with anemia: Hookworm, AIDS, Brucellosis, Visceral Leishmaniasis

9A with yellow eyes or swollen abdomen: Visceral Leishmaniasis.

36A: Pneumonia, Respiratory Infection, Anemia, Heart Failure

3C: Not helpful—refers to 36A

29C, 23H: Not helpful

46B1: Cancer, Cirrhosis, Malaria, Thalassemia, Tropical Splenomegaly; Visceral Leishmaniasis.

46B 2: Hepatitis, Liver fluke, Plant Poisoning, Thalassemia, Visceral Leishmaniasis.

Patient Risk Factors:

Living in the Omo River valley, insect bites.

Sorting the Differential:

Thalassemia and Visceral Leishmaniasis are the prime suspects.

Similar Diseases:

Tropical Splenomegaly, Enteric Fever, Brucellosis. Tropical Splenomegaly may be nearly indistinguishable but liver size is usually normal. Enteric Fever involves an onset over 2-3 days rather than months, although someone with a partial immunity could present like this. Brucellosis patients feel awful and complain loudly while they still have little in the way of physical evidence of disease; it's the other way with Visceral Leishmaniasis—they have objective evidence while they are still feeling pretty good.

Take-Home Lessons:

Don't stop with the diagnosis of anemia. Anemia is a syndrome, not a diagnosis; you must determine why the person has the anemia.. Thalassemia can also look similar but she should have had it at a younger age. On the other hand, Tropical Splenomegaly also tends to occur in clusters of cases in communities.

Disposition:

How you treat depends on your referral resources.

050 Leprosy, lepromatous

Problem List:

Skin bumps; Sharp, shooting pains, arms and legs

Protocols and DD:

14D: Onchocerciasis, Mycetoma, Leprosy,
10B: Leprosy, Loiasis

Patient Risk Factors:

None; no prior exposure.

Sorting the Differential:

Bumps on the outer ears, hands, and feet is distinctive, when combined with the story. Painless wounds indicate a nerve problem; wounds are normally painful. The slow onset is typical. She is not itching all over so that makes Onchocerciasis unlikely. Loiasis is not present in arid areas. There are no dry grains like you would expect with Mycetoma.

Similar Diseases:

Syphilis, tertiary; Yaws, tertiary; Cysticercosis. In the case of Syphilis, the late consequences involve uncoordination that is worse in the dark. Her problem is numbness—lack of touch sensation. Even though she is not sexually active, tertiary Syphilis is a possibility if she was infected by a syphilitic mother.

Take-Home Lessons:

Leprosy is either flat or symmetrical but not both. If it is bumpy it is symmetrical. If it is flat it is not symmetrical. Her skin condition is symmetrical. If there is any symmetry at all, we call it symmetrical. Lepromatous Leprosy always affects the outer ears. Sometimes the bumps are small; in this case they are obvious, but one would miss them by permitting her to keep her head covered.

Disposition:

Wait and see is o.k. You should treat her yourself; the government clinic will just give more penicillin. Choose option 1 or 2.

051 Scabies

Problem List:

Itchy rash, red spotted, no blisters, no roughness or peeling

Protocol and DD:

14B: Scabies, Contact Dermatitis, Fleas, Schistosomiasis, Seabather's Eruption

Patient Risk Factors:

Developing area, mingling with nationals, prior history of the same.

Sorting the Differential:

Scabies fits the best; the man has not been swimming, he sees no fleas, and contact dermatitis doesn't make sense. The scattered spots are very itchy, and ink rubbed on shows little lines. The distribution on hands and genitals but not head is typical.

Similar Diseases:

Impetigo, Tinea, Eczema, Contact Dermatitis, Strongyloidiasis, Larva Migrans

Take-Home Lessons:

A very itchy rash in a White is not Syphilis. (Slightly itchy might be.) He has close contact with nationals so is at risk of getting scabies. He does not feel ill, a factor against Schistosomiasis. He has been promiscuous but that is irrelevant in this case.

Disposition:

Treat him by having him wash with Omo and a corn cob 3 times a day for 3 days. Alternatively use malathion or lindane. You should also counsel him regarding STD's since he is promiscuous. Options 1 or 3 are best.

052 Tuberculosis/Scrofula

Problem List:

Swelling in neck; Fatigue; Fever

Protocols and DD:

31A: Strep Infection, Ear Infection, Cellulitis, AIDS, Tuberculosis, Syphilis, Cancer

9A: Heart Failure, Beri-beri, Cancer

1B: Tuberculosis, AIDS, Brucellosis, Hepatitis, Visceral Leishmaniasis, Filariasis

Patient Risk Factors:

Residence in a developing country

Sorting the Differential:

AIDS, Cancer, and Tuberculosis are most likely. Since she had loud breath sounds over her spine in back, this makes Tuberculosis the top consideration.

Similar Diseases:

From B¹³-12, you should consider only the slow-onset diseases: HIV/AIDS, Brucellosis, Visceral Leishmaniasis, and Cancer. Since the nodes are only on the neck, this makes HIV unlikely. The normal-sized liver and spleen make Brucellosis and VL unlikely. Cancer is a possibility but that cannot be treated in this context anyway; it's best to treat what you can and await the result.

Take-Home Lessons:

This is a common way for TB to present. She may have AIDS and Cancer instead or also, but TB, being common worldwide, is more likely.

Disposition:

Any of the first three options, depending on your circumstances. She needs vitamin supplementation and protein in her diet or she will not respond to the medication.

¹³ If you are using the sixth edition, this is a C- protocol, not B-.

053 Scurvy

Problem List:

Rash, darkening skin color, bleeding gums, limb pains, skin ulcer

Protocols and DD:

14A2: Flea bites, not otherwise helpful.

16B: Scurvy, Malnutrition, Pellagra

29C: Mouth infection, Scurvy, Hemorrhagic Fever, Visceral Leishmaniasis

60D: Hepatitis, Arthritis, Mansonellosis Perstans.

Patient Risk Factors:

Diet devoid of fresh fruits or vegetables.

Sorting the Differential:

The differential is difficult to sort but Scurvy is the front runner because it is the only one that is listed twice.

Similar Diseases:

None. If the patient were very ill with a high fever, then Hemorrhagic Fever would be a consideration.

Take-Home Lessons:

Some cases are difficult. If a patient has been eating a horrid diet, a trial of multivitamins won't hurt and it may just solve his problem. However, if it works, it won't tell you what the diagnosis was because it is a sort of shotgun treatment.

Disposition:

Advise him on his diet. Commercial medication is entirely unnecessary.

054 Tuberculosis

Problem List:

Cough, Fatigue, Night sweats

Protocols and DD:

37A: Asthma, Respiratory Infection, Tuberculosis, AIDS, Heart Failure

9A: Heart Failure, Beri-beri, Cancer, Demonization

13C: Pneumonia, Tuberculosis, Filariasis

Patient Risk Factors:

Previous similar illness; residence in a developing country.

Sorting the Differential:

HIV Infection, Heart Failure and Tuberculosis are the most likely. TB fits best.

Similar Diseases:

HIV Infection, Respiratory Infection, Cancer, Allergy, Ascariasis.

Take-Home Lessons:

Because of a poor infrastructure, treatment facilities in developing countries frequently run out of TB medicines, resulting in the development of drug resistant Tuberculosis. Also it is very hard to convince people to buy and take their medicines for the entire time. They are hungry much of the time and the temptation to sell the meds is just too great.

Disposition:

Treat him yourself if you can. It is o.k. to give an ordinary antibiotic and wait a week. You don't want to embark on 6 months or a year treatment for TB if it's just a Respiratory Infection. Otherwise a private hospital would be an option. In any case you need to look after him nutritionally, making sure he consumes enough vitamins and protein.

055 Chancroid, STD

Problem List:

Sores, right groin; Large lymph nodes, right groin

Protocols and DD:

50D->STD: Protocol B¹⁴-1

52B: STD->Amebic Skin Ulcer; Sexually Transmitted Disease; Syphilis, Chancroid, possibly LGV or Donovanosis

Patient Risk Factors:

Promiscuous, previous STD's.

Sorting the Differential:

You might treat him for Amebic Skin Ulcer, having him check back. He will not respond to the treatment. Alternatively, since the initial sore was on his penis and the subsequent sores seemed to evolve from that, you might conclude that it was not coming from inside the abdomen so the amebic possibility was unlikely. Chancroid fits the best but diagnosis from appearances alone is risky. Therefore you should also treat for Syphilis.

Similar Diseases:

Amebic Skin Ulcer and other STD's.

Take-Home Lessons:

Promiscuous people get STD's. Many promiscuous people have more than one STD at any one time.

Disposition:

Treat him yourself if he will accept counsel. Use penicillin for Syphilis and ciprofloxacin for Chancroid. Otherwise send him to an STD clinic. No sense in putting yourself out if you cannot help him long-term. It consumes your resources and only returns him to perpetuate the cycle of reinfection with his irresponsible behavior.

¹⁴ If you are using the sixth edition, this is a C- protocol, not B-.

056 Donovanosis, STD

Problem List:

Groin swelling, Vaginal ulcers, Vaginal discharge, Mouth sores

Protocols and DD:

17B: Syphilis, Donovanosis

29C: Syphilis, Donovanosis, Cancer, other causes

52A: Sexually Transmitted Diseases—see Protocol B¹⁵-1

52C: Amebic Skin Ulcer, Donovanosis, Syphilis, STD

54: Myiasis, Donovanosis

Patient Risk Factors:

She is prone to developing Sexually Transmitted Diseases because of her having been a prostitute. She is vulnerable to Donovanosis because she worked in a port city. Although Donovanosis is mainly a Pacific regional disease, it is found worldwide in port locations for obvious reasons.

Sorting the Differential:

Donovanosis is one of the Sexually Transmitted Diseases. You can determine how to treat her by pursuing Donovanosis or by simply treating according to the Sexually Transmitted Disease protocol. The former is preferable since Donovanosis is not one of the common STD's that is ordinarily covered by the protocols.

Similar Diseases:

Other STD's. It wouldn't be a bad idea to treat her for the others also. You might also consider Keloid (which should be hard texture rather than soft), Warts, and secondary Syphilis.

Take-Home Lessons:

Although presumably Felice is not sexually active at this time, her short history of reform is irrelevant medically. She should be considered sexually active as regards the diseases she is prone to developing.

Disposition:

Options 2 or 3 are fine.

¹⁵ If you are using the sixth edition, this is a C- protocol, not B-.

057 Urethritis/Gonorrhea or Chlamydia

Problem List:

Pain with urinating; Frequent urination; Pus from his penis;

Protocols and DD:

50C: Urinary Infection, STD, Urethritis,

58: Kidney Infection, Tuberculosis, Urinary Infection, Urethritis.

59: Urethritis, Gonorrhea

Patient Risk Factors:

Profession involving traveling; promiscuous lifestyle; previous Sexually Transmitted Diseases.

Sorting the Differential:

Urethritis is a top priority and this is commonly due to Gonorrhea or Chlamydia or something else. He is promiscuous and therefore at risk of this. See Protocol B¹⁶-1.

Similar Diseases:

None

Take-Home Lessons:

Burning with urination is typical of a Urinary Infection which may be STD or something else. His social history is typical of men who are promiscuous.

Disposition:

Either option 2 or option 3. If he is amenable to counsel, then treat him yourself. Use penicillin and doxycycline unless there is resistance. You should cover both Gonorrhea and Chlamydia. Give a loading dose of amoxicillin plus doxycycline for 10 days. Treat him only if he brings his mistresses.

¹⁶ If you are using the sixth edition, this is a C- protocol, not B-.

058 Lymphogranuloma Venereum

Problem List:

Fever and chills, Anal pain, Anal wound

Protocols and DD:

1: Not helpful

52C: Chancroid, Lymphogranuloma Venereum, Herpes, STD, Fissure, Amebic Skin Ulcer

B¹⁷-1: STD

Patient Risk Factors:

Immoral lifestyle

Sorting the Differential:

Go through B-1, keeping in mind that for homosexuals the anus is sexual. LGV fits the best. There are no blisters of Herpes. However, the patient should be treated for Chancroid also, and he should be checked for Gonorrhea or treated for it.

Similar Diseases:

Donovanosis, Amebic Skin Ulcer

Take-Home Lessons:

One sees the strangest STD's amongst people involved in the sex trade.

Disposition:

Options 2, 3, or 4. Options 2 and 3 are safest. However, if he is open to counsel, you just might win him. It would be good to cover Amebic Skin Ulcer also since that can be rapidly devastating.

¹⁷ If you are using the sixth edition, this is a C- protocol, not B-.

059 Cutaneous Leishmaniasis

Problem List:

Skin sore

Protocols and DD:

17B: Zinc Deficiency, Myiasis, Tuberculosis, Cutaneous Leishmaniasis, Leprosy, Yaws, Diphtheria, Buruli Ulcer

Patient Risk Factors:

Area of residence.

Sorting the Differential:

The ulcer is not very painful since he only complains when he tries to sleep at night. Cutaneous Leishmaniasis occurs on parts of the body not normally clothed. A tuberculous ulcer is a possibility.

Similar Diseases:

Leprosy, Syphilis, Onchocerciasis, Yaws.

Take-Home Lessons:

Cutaneous Leishmaniasis has varying appearances. It can appear raised up as in this case, or as an ulcer resembling a Tropical Ulcer. It can also appear as a red, roughened area of skin, like Eczema.

Disposition:

He will need surgery, although you can try various medical and local remedies. You need to supplement his diet with some protein-rich food.

060 Syphilis, Primary

Problem List:

Penis sore (spontaneous)

Protocols and DD:

52C: Amebic Skin Ulcer, Donovanosis, Syphilis, STD->B¹⁸-1, Reiter Syndrome.

Patient Risk Factors:

Sexual history.

Sorting the Differential:

A single, non-painful and non-tender genital ulcer, swollen underneath, with large, non-tender lymph nodes, is usually Syphilis. Primary Syphilis is most likely but he should also be treated for other STD's according to the B-1 protocol.

Similar Diseases:

Chancroid, Donovanosis, Lymphogranuloma Venereum. These are clinically indistinguishable.

Take-Home Lessons:

You have to make a moral decision, whether to come down on him or not. This is a typical appearance for primary Syphilis.

Disposition:

Option 1, 2, or 3 is acceptable. Treat at least for Syphilis plus Gonorrhea and Chlamydia. Some physicians would also treat for Chancroid, Donovanosis, and Lymphogranuloma Venereum.

¹⁸ If you are using the sixth edition, this is a C- protocol, not B-.

061 Syphilis, secondary

Problem List:

Genital bumps; Large groin lymph nodes; Headache; Fever (?); Fatigue

Protocols and DD:

52A &B: Sexually Transmitted Diseases—protocol B¹⁹-1

19A: Malaria, Syphilis

1: Not helpful since the fever is questionable.

8A: Not helpful

Patient Risk Factors:

New girlfriend, sexually active, previous genital sore.

Sorting the Differential:

Check out the Sexually Transmitted Diseases: Gonorrhea, Herpes, Syphilis, Chancroid, Lymphogranuloma Venereum, Donovanosis. See Protocol B-1 for STD's. Secondary Syphilis fits the best. He is losing some hair and the moist genital warts are classical in appearance. You can also diagnose this by calling them Warts and checking out similar conditions. Syphilis and Malaria are the great imitators. They should figure into the differential of many patients.

Similar Diseases:

Warts, Donovanosis

Take-Home Lessons:

Sexually Transmitted Diseases are so common in developing areas that you should consider them first in anyone who is sexually active but not constrained to be faithful.

Disposition:

Treat him yourself with penicillin or send him to an STD clinic.

¹⁹ If you are using the sixth edition, this is a C- protocol, not B-.

062 Tinea

Problem List:

Hair loss

Protocols and DD:

21A: Zinc Deficiency, Tinea, Syphilis

Patient Risk Factors:

Residence in a tropical developing country.

Sorting the Differential:

He eats a well-rounded diet so Zinc Deficiency is unlikely. He has not been sexually abused. This leaves Tinea as most likely.

Similar Diseases:

Leprosy, Syphilis, Arsenic Poisoning: none likely because he has no numbness, was not sexually experienced, and his parents don't have symptoms of Arsenic Poisoning.

Take-Home Lessons:

Fine, dry, flaky skin rashes are usually due to Tinea or another kind of fungus.

Disposition:

Treat him yourself with some anti-fungal cream or oral medication. Be sure his parents consent and refer him quickly if he does not respond.

063 Malnutrition/Kwashiorkor, Ascariasis, possibly TB also

Problem List:

Whole body swelling; Loss of appetite; Abdominal pains; Light skin color; Fussiness

Protocols and DD:

13B: Malnutrition, Heart Failure, Kidney Failure, Liver Failure, Beri-beri

9A: Malnutrition, Giardiasis, Enteric Fever, Ascariasis.

39B: Irritable Bowel, Impaction, Ascariasis, Tuberculosis, Lead Poisoning.

16A: Tuberculosis, Anemia, Malnutrition.

--no protocol for fussiness

Patient Risk Factors:

Light skin color, refusal to eat, famine conditions, competing older siblings.

Sorting the Differential:

Malnutrition is the top contender for a correct diagnosis. The child also has worms which compound the problem, consuming what little food she does eat. You should consider Tuberculosis if she does not respond to treatment right away.

Similar Diseases:

Trichinosis, Sickle Cell disease, Tuberculosis, Kidney Failure, Liver failure

Take-Home Lessons:

The body is generally swollen but the upper arms are skinny so it's not fat. Her skin looks discolored and flaky on the fronts of her legs. There are slow-filling indents in the feet. She may have worms consuming her food.

Disposition:

You need to feed her yourself; if you give food to the family the older sibs will consume it. First give vitamin A; then deworm her, start refeeding slowly, gradually increasing protein intake.

064 Tungiasis

Problem List:

Burning foot pain; Sharp foot pain; Skin broken open, innumerable small holes

Protocols and DD:

60A: Tropical Ulcer, Filariasis, Tungiasis, Pellagra, Elephantiasis

17A: Impetigo, Mycetoma, Myiasis

Patient Risk Factors:

Walking barefoot in an endemic area.

Sorting the Differential:

The open sores are not big enough to be considered ulcers although they may develop into that. Filariasis and Mossy Foot (Elephantiasis) can cause the pains but they do not cause the breaks in the skin, ordinarily. His diet is not exclusively corn so Pellagra is unlikely. The key to the diagnosis is the spotty skin lesions by the toenails.

Similar Diseases:

Mycetoma which is relatively painless.

Take-Home Lessons:

This illness is in the category of annoying but it can compromise the quality of life for the patient. It can also be a risk factor for developing Tetanus, which is commonly fatal.

Treatment is not always with drugs.

Any pain is worse when one is trying to sleep. If a pain is worse otherwise, that is significant.

Disposition:

Options 1,2, or 3 are o.k. You should try to immunize him for Tetanus. You should also support his nutrition because he will not heal well otherwise.

065 Rickets, Syphilis, or TB

Problem List:

Deformed legs; abnormal gait (wide-based with legs spread apart)

Protocols and DD:

62: Arthritis, Rickets, Tuberculosis, Syphilis, Yaws, Cretinism

7C: Beriberi, Syphilis, Demonization

Patient Risk Factors:

Confined to a windowless house for a matter of months. Relearned to walk after months with no sun exposure. Poor diet.

Sorting the Differential:

The differentials are not really helpful since they don't overlap. This could be caused by congenital Syphilis. Inquire as to the parents' health and as to whether there were stillborn siblings. He is too young for tertiary Yaws. Tuberculosis is a possibility. Demonization causes changes in function but does not cause deformity.

Take-Home Lessons:

Diagnosis is not for sure. This needs more sorting than what you can do. It is a common phenomenon in remote areas and something you need to accept. Be sure to send him to a medical rather than a surgical physician first. A surgeon will just do surgery. A diagnostician will sort out the causative diagnosis before sending him for surgery. It is helpful if you list your differential diagnosis.

Disposition:

He should go to a private hospital. Surgery might help after the underlying causative disease is diagnosed and treated. You should tend to his diet, being sure that he gets adequate protein and vitamins.

066 Herpes

Problem List:

Genital pain; genital blisters; pain with urinating

Protocols and DD:

50E->STD->B²⁰-1B->Herpes

15B: Herpes, Gonorrhea, Shingles, STD

50C: Urinary Infection, Tuberculosis, STD, Urethritis,

Patient Risk Factors:

History of promiscuity

Sorting the Differential:

STD is listed on all three differentials. Herpes, one of the STD's, causes genital blisters. Gonorrhea may cause blisters also, but these are usually on the limbs, not the genitals. Both may cause pain with urinating. However, Gonorrhea will cause leukocytes in the urine whereas Herpes does not.

Similar diseases:

The blisters of Gonorrhea are spread sparsely over the skin. The blisters of Shingles are in a band or an area on one side of the body. Herpes is the only STD that causes genital blisters with this pattern.

Take-Home Lessons:

There is nothing else that looks like this. Whereas with the other STD's you should treat multiple diagnoses if you suspect any one diagnosis, Herpes is so unique when it presents this way, that you can be sure on clinical grounds. Note the red bases around the blisters.

Disposition:

Option one is the best.

²⁰ If you are using the sixth edition, this is a C- protocol, not B-.

067 Tuberculosis, lymph node

Problem List:

Rash, large neck lymph nodes, loss of appetite, weight loss, white bump in the eye.

Protocols and DD:

17 B: Impetigo, Tuberculosis

31 A: Cellulitis, Herpes, AIDS, Tuberculosis, Syphilis, Cancer

09 A: Hookworm, Tuberculosis, AIDS, Malnutrition, Cancer,

23 F: Tuberculosis

Patient Risk Factors:

Lives in an area where TB is common. Even though it is uncommon in his age range, he has been sick for 5 years so he acquired the illness at a vulnerable age.

Sorting the Differential:

The appearance of the crusts on his face and neck is consistent with Impetigo. However, that would not explain his general ill health, the many, large, swollen lymph nodes, or the abnormal lung sounds. The rash is too high (on the face) and too low (on the upper back) for scrofula due to Tuberculosis but, given the whole story, that is most likely. Scrofula most often causes scabs like this on the neck. There may be an element of Impetigo or skin TB in addition to the internal Tuberculosis

Similar diseases:

Impetigo (which may be indistinguishable as regards the skin).

Take-Home Lessons:

Don't ignore whole body problems. On the other hand, while treating whole-body problems, adding local treatment for a local infection is harmless.

Disposition:

Have his parents wash with soap and water 4 times daily; Smear a little iodine or antibiotic ointment on the area after washing. Start him on TB medicines.

068 Yaws

Problem List:

Sores all over his body (some raised, at least one a skin ulcer—back of right leg, lowest one)

Protocols and DD:

14D: Leprosy, Yaws, Loiasis, Cutaneous Leishmaniasis.

Patient Risk Factors:

DRC is a humid area and the whole community is affected.

Sorting the Differential:

Humid area, common in the community, long-lasting. The deformed knee and limb are incidental. Normal physical examination. Leprosy is unlikely because the bumpy kind is always symmetrical or nearly so. Loiasis is unlikely because he does not perceive creatures moving about in his body. The bumps of Loiasis are covered with normal skin; these bumps are whitish. Cutaneous Leishmaniasis is not likely because many of his sores are in areas normally covered with clothing (unless he always runs naked). If he runs naked, that would be possible.

Similar Diseases:

Cutaneous Leishmaniasis, Warts

Take-Home Lessons:

Be aware of the Syphilis-related skin problems. Remember that all blood tests for Syphilis will be positive with any disease related to Syphilis. This means that MK's can acquire a positive blood test for Syphilis without having been sexually abused. This is important for parents and mission administrators to remember.

Disposition:

You should consider penicillin injections but if the community is promiscuous, this will make them vulnerable to Syphilis which is much worse. You should consider that he'll need protein supplements to help his recovery.

069 Guinea Worm

Problem List:

Foot pain; Foot blisters, Creature coming out

Protocols and DD:

60A&18: Guinea Worm, Larva Migrans
17B Tuberculosis, Abscess, Guinea Worm
15B: Herpes, Guinea Worm

Patient Risk Factors:

Refugee situation; water obtained from step wells.

Sorting the Differential:

The white thread looks like the end of a worm and its movement confirms that it is alive. Nothing else looks like this. The skinny worm emerging from the skin is distinctive.

Similar Diseases:

At the stage of one blister or bump which is very painful, consider necrotizing fasciitis or an infected wound or an early abscess. Guinea Worm is still most likely because of his yearning for cold.

Take-Home Lessons:

The severe, burning pain in the presence of the risk factors is distinctive.

Disposition:

You should see him daily and wind the worm onto a stick. He needs to be taught to prevent the problem by filtering his drinking water. Option 3. You need to see that he gets vitamins and enough protein to heal.

070 Syphilis, secondary

Problem List:

Red spotted rash; Fever; Loss of appetite

Protocols and DD:

14A: Syphilis, Arboviral Fever, Spotted Fever
(Fever not helpful—don't know the pattern)

8A and 9A: Not helpful—don't know if he'll have weight loss over time.

Patient Risk Factors:

STD patients are usually evasive. The scars indicate healed genital wounds from primary Syphilis.

Sorting the Differential:

Look up the diseases listed in 14A alone. Secondary Syphilis alone fits. He should be sicker with Arboviral Fever and not break out the same day with Spotted Fever. Consult Protocol B²¹-1 for dealing with Sexually Transmitted Diseases. The hair loss gives another vote for the diagnosis.

Similar Diseases:

Measles, Rubella, Mononucleosis. With all these diseases, the onset of the rash is rapid, over hours to a day. With Syphilis, the rash onset is slow, over a week. Rubella rash on the face clears as the rash progresses. Measles involves the eyes and the respiratory tract. The rash of Mononucleosis can look similar—it is most likely if the person took ampicillin but can occur even without his having taken that.

Take-Home Lessons:

Syphilis is the one STD that has a reputation for being the great imitator. The secondary stage can resemble almost any disease with a fever and a red spotted rash.

One should take an angry, defensive denial of sexual misconduct as an admission of the same.

Disposition:

You need to do a urinalysis since he may have Gonorrhea also. Any method of treatment is o.k.; best to do what you think he'll cooperate with. Choose options 2 or 3.

²¹ If you are using the sixth edition, this is a C- protocol, not B-.

071 Shingles

Problem List:

Skin pain, lower abdomen; Rash lower abdomen

Protocols and DD:

Protocol 42: Shingles

Protocol 15B: Herpes, Gonorrhoea, Spotted Fever, Shingles,

Patient Risk Factors:

There are no risk factors

Sorting the Differential:

Shingles is the most likely. Since the rash does not cross the midline more than a little, and because the area is a band, it is the only credible diagnosis.

Similar Diseases:

Herpes involves the genital area and near or on other pink, moist surfaces. The blisters of Gonorrhoea are scattered over the body. Rickettsialpox and Monkey Pox are not considerations because of the geography.

Take-Home Lessons:

Shingles is a late manifestation of Chicken Pox that the patient had as a child. Although Shingles is not contagious amongst adults, children can get Chicken Pox by being with an adult that has Shingles. Also, in Africa, about 90% of the patients with Shingles are HIV positive. There are good anti-viral medications for it but the main problem is the severe pain that accompanies the skin rash.

Disposition:

If possible you should try to obtain acyclovir for him. Otherwise just pain medication is indicated. It depends on the facilities at the private clinic or government hospital, if you should refer him there.

072 Goiter

Problem List:

Swelling, lower front of the neck.

Protocols and DD:

31B: Goiter, Abscess, Anthrax, Cancer

Patient Risk Factors:

Living inland in a mountainous area.

Sorting the Differential:

Goiter fits perfectly. An abscess should be painful, with Anthrax she should be sicker, and Cancer is not common at this young age—also it should be lumpy.

Take-Home Lessons:

Goiter affects the majority of young females in this area. It is a serious problem because as they marry and have children, they are at risk of having seriously handicapped children with Cretinism.

Disposition:

Option 3: Treat her with iodized salt and/or with small amounts of iodine added to drinking water.

073 Pellagra

Problem List:

Rash; Diarrhea

Protocols and DD:

15B: Pellagra, Arsenic Poisoning, Scurvy, Eczema, Kidney Failure.

56: Cholera, Giardiasis, Cyclosporiasis, or Cryptosporidiosis.

Patient Risk Factors:

Corn diet; impoverished

Sorting the Differential:

If you check out the diagnoses under 56, you will note that these are all severe diarrhea; Girma's is not severe. This leaves the 15B DD. Pellagra can cause diarrhea.

Similar Diseases:

Sprue, Onchocerciasis, Eczema, Tinea. The diarrhea is not bad enough to be Sprue. There is no Onchocerciasis in the area. Eczema is possible, but this is an allergic disease, rare in developing areas. Tinea is possible; treat for this if multivitamins don't work.

Take-Home Lessons:

Pellagra rash is symmetrical on sun-exposed areas of the body; the area under the man's shirt is spared. This developed slowly; he feels unwell. Pellagra is the only condition that can selectively cause a rough rash above the shirt neckline on the sun-exposed skin.

Disposition:

Treat him yourself. All he needs is multivitamin tablets and/or B complex. Teach him about diet. Option 1 is best.

074 Xerophthalmia

Problem List:

Visual loss in dim light, Excessive tears

Protocols and DD:

24B: Xerophthalmia

23H: Xerophthalmia, Eye Infection, Allergy, Plant Poisoning, Insecticide Poisoning.

Patient Risk Factors:

Poverty, poor diet

Sorting the Differential:

Xerophthalmia is the most likely. The ‘suds’ on the right lower lid confirms the diagnosis.

Similar Diseases:

Eye Infection, Allergy, Plant Poisoning, Insecticide Poisoning. With an Eye Infection or Allergy, the eyes should be very bloodshot. With Plant or Insecticide Poisoning, there should be a history of ingestion or exposure. Iritis is painful. Zinc Deficiency is consistent with this and probably coexists; it is wise to treat with zinc in addition to vitamin A.

Take-Home Lessons:

Xerophthalmia is an eye emergency. You MUST get vitamin A into this woman ASAP. Even an hour or two can make the difference between sight and blindness. The author carries a bottle of vitamin A in her pocket when seeing patients and promptly pops one into the mouth of a woman like this. An injection would be even better. Incidentally, the disease also lowers immunity, just like HIV Infection. 75% of children blinded by Xerophthalmia in India die within 3 months. You need to counsel concerning diet. You also need to provide zinc or counsel the patient concerning zinc-containing foods. Vitamin A alone won’t work if the patient happens to also be zinc deficient.

Disposition:

Option 2. Option 4 is not a bad idea in addition, not instead.

075 Amebiasis; Dysentery, amebic

Problem list:

Abdominal pains; bloody diarrhea

Protocols and DD:

42: Turista, Dysentery,

57: Hookworm, Dysentery, Tuberculosis, Peptic ulcer; Trichuriasis

Patient Risk Factors:

Residence; eating unsanitary food, drinking unsanitary water.

Sorting the Differential:

Dysentery is the most likely, with one of the worms or Tuberculosis being possible. Within the category of Dysentery, it is more likely amebic than bacterial, given that the diarrhea is sticky, smells very bad, and comes in large amounts. Bacterial Dysentery is in smaller amounts, frequent as in minutes between movements, has visible red blood in it, and doesn't smell bad.

Similar Diseases:

Trichuriasis, Strongyloidiasis, Hookworm, Arsenic Poisoning, Schistosomiasis Mansoni, bacterial Dysentery. Arsenic Poisoning is unlikely since she eats with the family and yet is the only one affected. She was not exposed to schistosomes. One of the worms is possible, so a general deworming is appropriate. Bacterial Dysentery causes diarrhea with a different pattern; however, it should be considered if she does not respond to treatment for amebae.

Take-Home Lessons:

Don't treat one diagnosis without considering that you may be wrong. Check how the patient responds and/or also treat other possibilities that are easy to treat and common in the culture. In this case, it wouldn't hurt to give a worm treatment also (3 days) but you would not embark on a TB treatment lasting a year unless and until you were sure of the diagnosis.

Disposition:

Treat her yourself. Give her metronidazole. She should also have some multivitamins and protein since her diet is not good. Add dewormers since she eats unsanitary food and thus is likely infected.

076 Acute Abdomen type 2

Problem List:

Abdominal pain, vomiting, constipation

Protocols and DD:

39: Acute Abdomen

Patient Risk Factors:

Being white, not having had his appendix out.

Sorting the Differential:

There is not much differential. Acute Abdomen type 2 fits well.

Take-Home Lessons:

Don't ever treat a non-missionary from a Western country if you can get away with not doing so. You are setting yourself up for medical-legal trouble.

Disposition:

Option 4 is the way to go. Anything else is disastrous. Contact his family and involve them in the decision. You need to be defensive.

077 Arthritis/Bone and lung Tuberculosis

Problem List:

Swollen knee, cough

Protocols and DD:

61C: Rheumatic Fever, Arthritis, Gout

37A: Asthma, Respiratory Infection, Tuberculosis, HIV Infection, Heart Failure, Cancer

Patient Risk Factors:

Residence in an area with much TB.

Sorting the Differential:

His Arthritis is not symmetrical so the possible causative diseases are Gonorrhea, Brucellosis and Tuberculosis. This puts Tuberculosis in both of the differential lists.

Take-Home Lessons:

You might be suspicious that the cough and knee pain are two separate problems. They are not. Some people with lung TB also have bone TB. Some people with non-lung TB also have lung TB. .

Disposition:

Send him for a chest x-ray and a knee x-ray. If your diagnosis is correct, both should be abnormal. If the chest x-ray is not abnormal, the problem still could be bone TB. In that case the knee x-ray should be abnormal. If neither x-ray is abnormal, then he has a cough for some other reason and his knee problem is just a garden-variety arthritis, such as osteoarthritis which is treatable just with anti-inflammatory medication. .

078 Reiter Syndrome

Problem List:

Ankle pain; ankle red, hot and swollen; Pain in the right eye; Fever; Sores in the mouth (painless);

Protocols and DD:

60D->B²²-6->Arthritis, Rheumatic Fever, Reiter Syndrome

22B&C->B-8: Iritis: Leprosy, Tuberculosis, Syphilis, Larva Migrans, Reiter Syndrome, Leptospirosis

29C: Reiter Syndrome, Syphilis, Donovanosis, Cancer, other diseases

Patient Risk Factors:

He is promiscuous and also had recent dysentery.

Sorting the Differential:

The differentials of the ankle and the eye do not overlap except for Reiter Syndrome which explains both.

Similar diseases:

Syphilis might involve the mouth and eye; Gonorrhea might cause ankle arthritis.

Take-Home Lessons:

If there is one diagnosis that can explain widely divergent symptoms, symptoms that don't seem to be related to each other, that diagnosis is most likely. This man has sores in his mouth, a hot, swollen joint, and eye problems. It is reasonable to suppose that he doesn't have three separate diseases that all happened to start simultaneously. He should also be checked for other STD's, particularly Syphilis.

Disposition:

Options 1 and 3. You should not treat him yourself because the guy is obviously immoral, the treatment is complex, and if you make a mistake it could cause you big trouble. Send him to a clinic or back to Sweden.

²² If you are using the sixth edition, this is a C- protocol, not B-.

079 Ear Infection

Problem List:

Ear pain; pus discharge from the ear, hearing loss.

Protocols and DD:

Protocol 25: Ear wax, Ear Infection, Respiratory Infection

Protocol 26: Wax in ear, Ear Infection,

Protocol 27: Ear Infection, Tuberculosis

Patient Risk Factors:

Prior cold.

Sorting the Differential:

Ear Infection is most likely.

Similar problems:

None

Take-Home Lessons:

In developing areas, problems present late. In this case, the late presentation makes the diagnosis easy; in other cases it makes it hard. When you are puzzled by a diagnosis, ask yourself, "How would this have looked x number of weeks or months before today?".

Disposition:

Treat her with antibiotics. Try to get the pus out of the ear but NOT by squirting anything in. Use a Q tip to soak it up.

080 Diabetes/Dehydration

Problem List:

Dizzy, Weight loss with good appetite, Thirst

Protocols and DD:

20: Anemia, Heat Illness, Dehydration, Heart Failure, Menses, Hyperventilation

9C: Ascariasis, Tapeworm, Thyroid, Diabetes

29C: Dehydration, Diabetes, Brucellosis, Plant Poisoning

Patient Risk Factors:

Large sugar consumption in drinking regular coke.

Sorting the Differential:

Dehydration appears in two; Diabetes appears in two. Diabetes causes dehydration because of excessive urination.

Take-Home Lessons:

Degenerative diseases may sometimes occur in developing countries, especially in urban areas, occasionally in rural areas.

A second diagnosis is frequently part of the consequences of the primary problem. With treatment, both need to be addressed.

Disposition:

Options 2 or 3. Diabetes is something you cannot manage.

081 Impetigo

Problem List:

Skin broken open, blistering, rough, peeling skin:

Protocols and DD:

17A: Impetigo

15B: Gonorrhea, Impetigo

Risk Factors:

Age of the patient, prior minor injury, lack of sanitation.

Sorting the Differential:

Impetigo is in both lists and it fits well though not exactly.

Similar diseases:

Yaws, Tuberculosis of the skin, Diphtheria of the skin. Yaws is also treated with penicillin so you needn't make a distinction. Skin TB, like any TB, develops slowly; you can consider this if she doesn't respond to the treatment. Diphtheria of the skin involves a single ulcer—it is not so widespread as this.

Take-Home Lessons:

Most Impetigo involves having yellow crusts but this has little if any. Since there is visible pus, you should conclude that it is a bacterial infection and treat it as such.

If you did not identify it as Impetigo but did conclude that she needs antibiotics and daily washing, that's fine also.

Disposition:

The first and last option are the best. They are the cheapest and will probably work. Also, give dietary advice to the family or else provide nutritional support. Without a decent protein intake, her skin will not heal.

082 Vaginitis, candidia

Problem List:

Vaginal itching, vaginal discharge:

Protocols and DD:

51: Vaginitis, Scabies, Lice, Strongyloidiasis, Enterobiasis

54: Vaginitis due to Candidiasis or Trichomonas

Risk Factors:

Female, recent antibiotic consumption.

Sorting the Differential:

Since you cannot see any creepy crawlies and since the appearance of the genital area and the discharge is consistent with Candidiasis, that's the most likely diagnosis.

Take-Home Lessons:

Don't fail to do a genital exam for a genital problem, even on single women.

Disposition:

One of the last two options is best.

083 Vaginitis, bacterial

Problem List:

Vaginal odor

Protocols and DD:

54: Vaginitis, Pelvic Infection, Enterobiasis

Risk Factors:

None in particular

Sorting the Differential:

Bacterial vaginitis is most likely because the odor is fishy. If the odor were putrid, then it could be a Pelvic Infection with putrid pus.

Take-Home Lessons:

Don't neglect to involve your nose in physical examination.

Some diagnoses are easy.

Sometimes the social implications of trivial illnesses can be profound.

Disposition:

Treat her yourself.

084 Cataract and Xerophthalmia

Problem List:

Decreased vision

Protocols and DD:

24B: Cataract, Xerophthalmia, Iritis, Glaucoma, Plant Poisoning.

Risk Factors:

Age, diet.

Sorting the Differential:

There are two problems here, not one. His cloudy vision started five years ago but the second problem, difficulty seeing in dim light, is of more recent onset.

Similar Diseases:

Eye Infection, Allergy, Plant Poisoning, Insecticide poisoning. With an Eye Infection or Allergy, the eyes should be very bloodshot. With Plant or Insecticide Poisoning, there should be a history of ingestion or exposure. Iritis is painful. Zinc Deficiency is consistent with this and probably coexists; it is wise to treat with zinc in addition to vitamin A.

Take-Home Lessons:

If and when you get a history of two very different onset times for two different complaints, then you are probably dealing with two problems rather than one. In this case, it is two conditions, not one, involving the same organ—his eyes. An exception to two onsets/two problems is Syphilis, a disease at which very different symptoms arise, separated by as much as 30 years.

Disposition:

He needs vitamin A immediately for his difficulty seeing in dim light; he needs to be referred for surgery for his cataract. With a lens implant and a pair of reading glasses, he should again be able to read as well as navigate on foot without any difficulty. Advise him to eat foods containing vitamin A, those that are by nature (rather than by food coloring) yellow or orange. Add zinc to cover a possible Zinc Deficiency.

085 Anaphylaxis and Malaria

Problem List:

Fever, headache

Protocols and DD:

1C: Malaria most likely

19: Malaria most likely

36A: Anaphylaxis, Allergy, Asthma, Pulmonary Embolism, Pneumothorax, inhaled foreign body.

Risk Factors:

Vacation on the coast.

Sorting the Differential:

The original diagnosis is not in question. The patient is an intelligent person and knows what Malaria feels like. The current problem, you should recognize as Anaphylaxis, requiring immediate epinephrine.

Take-Home Lessons:

Some cases are difficult to diagnose but easy to treat; others are easy to diagnose but difficult to treat. This is the latter. In this case, the shortness of breath and also the pregnancy are of prime concern.

Disposition:

Any of the first 3 options is acceptable. You should choose the most benign medication available but not chloroquine. Quinine, mefloquin, or Coartem are all acceptable. In any case, you should keep the patient near you because all these drugs are related and she might get another allergic reaction.

086 Hepatitis plus pregnancy

Problem list:

Nausea and vomiting, fatigue

Protocols and DD:

47: Hepatitis, Liver Fluke

8A: Heat Illness, Zinc Deficiency, Hepatitis, Malabsorption

Sorting out the differential:

Either the pregnancy or Hepatitis can account for her symptoms. The deciding factors are her having bilirubin in her urine and a slightly enlarged, tender liver. She has Hepatitis.

Similar diseases:

Malaria, Leptospirosis, Amebiasis, Heart Failure, Q Fever. Leptospirosis causes more muscle and eye pain; Q Fever causes muscle pains alone. Amebiasis and Heart Failure do not account for the joint pains.

Take-home lessons:

Pregnant women can get the same diseases that anyone else can get; the joint pains are consistent with Hepatitis. You should at least consider whether any particular symptom is due to the pregnancy or is due to some other disease

Disposition:

Option 3 and maybe 4. Watch the patient closely, tending to fluids and nutrition. Give no medication unless forced to do so, and then only small amounts of anti-nausea medicine.

087 Tropical Splenomegaly and Anemia

Problem List:

Fatigue, enlarged spleen:

Protocols and DD:

8A: Anemia, Heart Failure, Demonization, Depression, Hookworm

46B: Brucellosis, Cancer, Hydatid Disease, Malaria, Tropical Splenomegaly, Visceral Leishmaniasis.

Risk Factors:

Malarious area, others with large spleens.

Sorting the Differential:

There is not any overlap in the differentials of the two complaints, but both Anemia and Malaria are closely related to Tropical Splenomegaly. Malaria causes Tropical Splenomegaly and Anemia is the result of both. It could also be either Visceral Leishmaniasis or Hydatid Disease; you might have to explore these possibilities with blood tests. He has no evidence of being generally ill, which makes Brucellosis, Heart Failure, and Cancer unlikely.

Take-Home Lessons:

When there is little or no overlap between the differentials, look for diagnoses that are not mutually exclusive, where several diagnoses are related.

Disposition:

Malaria prevention, instruct him to eat a lot of vegetables and animal products to hasten the reversal of his anemia. Multivitamins and folic acid might be helpful.

088 Tropical Splenomegaly, old injury

Problem list:

Back deformity, enlarged spleen:

Protocols and DD:

64: Old injury, TB, Birth defect

46 B: Brucellosis, Cancer, Hydatid Disease, Malaria, Tropical Splenomegaly, Visceral Leishmaniasis.

Sorting the differential

There is no common item in the differential diagnosis. Also the history indicates that you are dealing with two problems because of vastly different times of onset.. Since the patient is not very sick otherwise, the choice comes down to Malaria/Tropical Splenomegaly (the latter being a consequence of the former) and Visceral Leishmaniasis.

Take-home lessons:

Time sequence is very important. The grandfather died of presumed TB last year but the deformity dates from when Rabee was a preschooler and the problem has not progressed from then to now. Hence it is very unlikely to be due to TB. Surgery is a major stress on the body. A deformity of this magnitude is a major surgery. Rabee needs to be in good shape before anyone should undertake this. Hence, it is mandatory that you deal with his enlarged spleen before even considering surgery. Since the problem has not progressed in the past 10 years at least, it is unlikely to progress within the next couple of months. There is no need to high-tail it to Addis to have him taken care of immediately.

Disposition:

Options 2, 5, 6. Provide Malaria preventive medication to decrease the size of his spleen. Contact the orthopedic surgeon who will be coming, asking him what to do about the back. You should take pictures from various angles to send him. If you can arrange for an x-ray, that would be helpful. Advise the family to feed him more tef and to provide sources of protein such as beans and lentils, animal protein if possible.

089 Anemia with pregnancy

Problem List:

Fatigue, rapid pulse, rapid respiration:

Protocols and DD:

8A: Anemia, Heart Failure, Demonization, Depression, Hookworm

3C: Anemia

36A: Anemia, Dehydration, Sepsis, Shock, Stress, Kidney Failure, Addiction, Diabetes

Risk Factors:

Pregnancy, previous pregnancies, poor diet, Malaria.

Sorting the Differential:

Anemia explains all the symptoms. There are three possible types of anemia: one is due to the Malaria which destroys red cells, the second is due to lack of vitamins from her poor diet, and the third is due to iron deficiency since the baby draws on her iron in order to grow.

Similar diseases:

Tuberculosis, Malnutrition which may both coexist.

Take-Home Lessons:

Different causes may converge to make one condition. If you can't pinpoint one cause, then you should treat all the causes.

Disposition:

Option 1: Treat her with a Malaria preventive, multivitamins, and iron tablets.

Make sure she gets enough protein in her diet. Give dietary advice. It is important to follow her anemia because if she is too anemic when she is about to give birth, she may die in childbirth. At her altitude, she needs a hemoglobin of at least 60% to survive childbirth.

090 Leprosy, multibacillary

Problem List:

Discolored skin, swollen face, numbness & tingling, sharp, shooting pains

Protocols and DD:

16A: Tinea, Vitiligo, Leprosy

21B: Allergy, Plant Poisoning: argemone oil, Leprosy

10A: Beriberi, Pellagra, Arsenic Poisoning, Leprosy

10B: Leprosy; Syphilis, tertiary

34D: Not helpful, refers to 10A.

Risk Factors:

Age, geographic location

Sorting the Differential:

Leprosy appears in all the lists. His problem is not symmetrical which eliminates Vitiligo, Beriberi, Pellagra, and possibly Arsenic Poisoning. Leprosy is the top candidate and it fits. The other possibilities don't explain his numbness, tingling, and sharp pains.

Similar diseases:

Allergy, Vitiligo, Tinea. Allergy and Tinea are both itchy which this is not. Vitiligo causes just a light color of the skin but no other symptoms; it does not account for his pains and it is symmetrical on the arms.

Take-Home Lessons:

Patients don't always fit the books. This guy's arm looks like paucibacillary Leprosy but his face looks like multibacillary (previously lepromatous) Leprosy. His face areas look almost symmetrical but not quite.

Disposition:

You should treat him yourself unless you can find a good government or NGO program that is affordable and where the staff and patient have a common language.

091 Vomiting of pregnancy

Problem List:

Nausea and vomiting, fatigue:

Protocols and DD:

47: Pregnancy, Ascariasis, Plant Poisoning

8A: Heat Illness, Zinc Deficiency, Hepatitis, Malabsorption

Sorting the Differential:

She could have Hepatitis but her urinalysis showing only ketones, no bilirubin, eliminates that as a diagnosis.

Take-Home Lessons:

Some diagnoses are obvious and easy.

Disposition:

Options 2 and 5. Encourage her to eat some dry crackers in bed each morning before rising. If it is severe and persistent, you may have to resort to anti-nausea drugs. Advise her to eat more vegetables milk, eggs, and seafood, to consume less rice.

092 Typhus or Enteric Fever

Problem List:

Fever, abdominal pain, cough:

Protocols and DD:

1D: Febrile Seizure, Malaria, Enteric Fever, Heat Illness, Meningitis, Encephalitis

39B: Strep Infection, Pneumonia, Enteric Fever, Malaria

37A: Pneumonia, Enteric Fever

Risk Factors:

Geography, probable lack of sanitation.

Sorting the Differential:

The slow onset, the abdominal pains, the altered mental status, all point to Enteric Fever. The diagnosis could, however, be Typhus.

Similar diseases:

B²³-10: Arboviral Fever, Encephalitis, Enteric Fever, Malaria, Sepsis, Typhus

B-9: Arboviral Fever, Enteric Fever, Kidney Infection, Malaria, Typhus, Urinary Infection, Yellow Fever. There is much overlap with the differential diagnosis.

Take-Home Lessons:

The diagnosis of Enteric Fever is difficult. Nationals commonly label any and every significant illness with a fever (and some without fevers) as typhoid. Resist doing this. Anyone who is alert enough to say, "I have typhoid fever," doesn't have the disease. Overdiagnosis leads to drug-resistant Typhoid Fever.

Be aware that there is no reliable blood test for Typhoid Fever. "Your blood test shows typhoid," is nonsense.

Disposition:

The fourth option is the best. He needs nutritional support if he is to recover. Arboviral Fever is a similar disease that only requires supportive care which you will do anyway. You might decide to treat for Malaria in addition to Enteric Fever and Typhus. If he had Malaria in the past, it is likely to recur in his weakened state.

²³ If you are using the sixth edition, this is a C- protocol, not B-.

093 Measles

Problem List:

Fever, rash, cough, eye pain, eyes red:

Protocols and DD:

1D: Malaria, Enteric Fever, Measles, Encephalitis, Meningitis, Sepsis, Typhus, Spotted Fever.

14A: Strep Infection, Measles, Chicken Pox, Dengue Fever, Rubella, Syphilis, Mononucleosis.

37A: Pneumonia, Measles, Enteric Fever, Amebiasis.

22C: Malaria, Measles, Leptospirosis, Dengue Fever, Arboviral Fever, Spotted Fever, Scrub Typhus, Cellulitis, Shingles

23A&B: Dengue Fever, Measles, Leptospirosis, Typhus, Arboviral Fever, Spotted Fever, Hemorrhagic Fever, Scrub Typhus.

Risk Factors:

Developing country, lack of immunization, poverty.

Sorting the Differential:

The correct protocol for the rash might be confusing because the rash appears somewhat rough and bumpy, not red. However, red color is difficult or impossible to see in dark skin; red rashes in dark skin usually appear sandpapery, not discolored. Measles is the top consideration, with Leptospirosis also being a possibility.

Similar diseases:

B²⁴-8: Arboviral Fever, Chicken Pox, Leptospirosis, Typhus, Rubella, Strep Infection.

Take-Home Lessons:

Measles in patients with dark skin is exceedingly serious. Even in those with light skin, there are significant complications such as deafness and blindness.

Disposition:

Option 1 is the way to go. Ramya does not need antibiotic right now because her respiratory rate is normal. You should check the baby also; he might need it before she does.

²⁴ If you are using the sixth edition, this is a C- protocol, not B-.

094 Brucellosis

Problem List:

Leg weakness, leg pains, back pains, total body pain, fever episodes, fatigue

Protocols and DD:

8B: Polio, Meningitis, Encephalitis, Diphtheria, Brucellosis, Tuberculosis, Leptospirosis, Rabies, Relapsing Fever, Thyroid Trouble.

60D: Familial Mediterranean Fever, Brucellosis, Rubella

63B: Brucellosis, Rheumatic Fever, Arthritis, Tuberculosis, Relapsing Fever, Sickle Cell Disease.

10C: Not helpful since none of the items listed under limb pain plus fever match the patient's history.

1C: Filariasis, Visceral Leishmaniasis, Thalassemia, Brucellosis

8A: Malaria, Brucellosis, Rat Bite Fever,

Risk Factors:

Dealing with cattle, consuming unpasteurized milk and cheese.

Sorting the Differential:

Brucellosis is found in all of the lists. There is Visceral Leishmaniasis in his area but his spleen is not very large and his liver is not large at all.

Similar diseases:

Pellagra, Tuberculosis of the bone. With Pellagra, swallowing and abdominal complaints predominate whereas with Brucellosis joint and bone complaints predominate. Tuberculosis of the bone may be indistinguishable but with bone TB the patient focuses his bone pain on one particular spot. With Brucellosis his complaints are not focused on one spot.

Take-Home Lessons:

Brucellosis is one disease that has a myriad of manifestations. There is no one manifestation that is necessary and sufficient to make the diagnosis. You have to get the whole picture of long-term misery. This is not a diagnosis you can make early-on, when the person is first infected.

Disposition:

On the chance that this is Pellagra, you can try B vitamins or multivitamins for a couple weeks and see what happens. Use any three of the suggested antibiotics. Have him pay for the whole lot at the same time. He needs to be treated for 3 months since this has gone on for so long. Encourage him to increase the protein and vitamin content of his diet.

095 Impetigo

Problem List:

Rash, face and arm

Protocols and DD:

15: Impetigo, Gonorrhea, Shingles

17: Impetigo, Mycetoma, Tuberculosis

Risk Factors:

Minor wounds on face from itching.

Sorting the Differential:

Impetigo fits perfectly. Note the yellowish crusts.

Similar diseases:

Yaws, Tuberculosis, Cutaneous Leishmaniasis

Take-Home Lessons:

Impetigo is very common and this appearance is quite typical. It is not very painful, and it does not make the person generally sick. You cannot sort out the reason for the itching at this time.

Disposition:

All the options are acceptable except for evacuation back to the States. This is totally unnecessary.

096 Tuberculosis/pregnancy

Problem List:

Cough, fever:

Protocols and DD:

37 B: Respiratory Infection, Pneumonia, Tuberculosis

1B: Tuberculosis, AIDS, Visceral Leishmaniasis, Filariasis, Brucellosis, Hepatitis.

Risk Factors:

Husband ill, pregnancy.

Sorting the Differential:

There is the obvious pregnancy but the patient also has Tuberculosis. From her husband's history, evidently he also has TB and she got it from him.

Take-Home Lessons:

It is sometimes profitable to look beyond the present patient and consider family members. In this case you have the chance to make a very big difference in the life of this family by treating both husband and wife for TB.

Disposition:

If there is a good government treatment program, send them. Otherwise treat the two of them together. Avoid streptomycin in pregnancy. In any case she and he both need nutritional support in order to recover.

097 Pelvic infection

Problem List:

Lower mid abdominal pain

Protocols and DD:

44: Menstrual cramps, Urinary Infection, Pelvic Infection,
50 E and/or B²⁵-1 are also acceptable approaches to the problem.

Risk Factors:

Unhappy living situation.

Sorting the Differential:

The amount of pain that she has is far too much to attribute to menstrual cramps. She has no present burning with urination. Pelvic Infection fits the best.

Take-Home Lessons:

Given the social situation, you need to be defensive on this. If you treat her or them and miss something or offend them, you are in big trouble. Don't touch it!

Disposition:

The couple are expatriates and relatively well off. Refer them to a number of places and let them make the choice—and take the responsibility—as to where they go. If this were a poor national couple you would treat them both for Gonorrhea and Chlamydia.

²⁵ If you are using the sixth edition, this is a C- protocol, not B-.

098 Tuberculosis of the spine

Problem List:

Back pain, Deformed spine

Protocols and DD:

63B: Brucellosis, Rheumatic Fever, Arthritis, Tuberculosis, Relapsing Fever, Sickle Cell Disease, Osteomyelitis, Pyomyositis.

64: Tuberculosis, old injury, birth defect

Risk Factors:

Family history of possible Tuberculosis.

Sorting the Differential:

Tuberculosis fits the best.

Take-Home Lessons:

This is a very easy case for diagnosis but difficult for disposition. An uncaring mother will more than likely sell anything that you give for his medication or nourishment. He lives too far away to walk to your location daily. An option may be to have him stay with one of your neighbors and give him odd jobs to earn his room and board.

Disposition:

You will probably send him home and let nature take its course. If you do decide to treat him, you will have to look after his nutrition.

099 Infertility

Problem List:

Infertility: This is a gynecological problem; see Volume 1, Chapter 6

Risk Factors:

She has had Malaria multiple times, has an enlarged thyroid, and has some kind of structural abnormality in her uterus. Her nutrition is not good.

Sorting the Differential:

You can do something about her nutrition, Malaria prevention, iodine supplementation, and general encouragement. You will need to send her elsewhere to have the growths on her uterus taken care of.

Take-Home Lessons:

Many conditions have multiple possible causes and any one patient may have more than one cause for his or her condition. Just because you find one cause, it doesn't mean that there is not another cause.

Disposition:

All of the options are good and should be pursued approximately in the order given. This may vary somewhat, depending on your circumstances. Be sure to counsel her on a balanced diet.

100 Acute Abdomen or tubal pregnancy

Problem List:

Lower abdominal pain, right

Protocols and DD:

42: Tubal Pregnancy, Pelvic Infection

Risk Factors:

Prior Pelvic Infection, rebellious nature, defensiveness regarding sexual activity.

Sorting the Differential:

Given the absence of pus coming from the cervix and given the pain and tenderness being mostly on the right, the choice is most likely Tubal Pregnancy or Acute Abdomen (appendicitis), which appears similar to a right-sided tubal pregnancy. In either case she needs surgery.

Take-Home Lessons:

There is no need to make distinctions between similar diagnoses if disposition of the case is the same. In this case, the patient needs a surgeon.

Disposition:

The second option is the only one that won't result in disaster.

101 Osteomyelitis

Problem List:

Pain, left foot

Protocols and DD:

60D: Arthritis, Rheumatic Fever, Osteomyelitis, Rat Bite Fever

Risk Factors:

None; the injury 10 years ago is irrelevant.

Sorting the Differential:

Given the absence of a history of a rat bite and given the single-spot involvement, either a septic Arthritis or an Osteomyelitis seems most likely. Both are treatable with cephalosporin.

Take-Home Lessons:

There is no need to make distinctions between similar diagnoses if the treatment as far as you are concerned is the same.

Disposition:

Treat him with antibiotic and also support him nutritionally since he will not otherwise be able to fight the infection and heal.

102 Anemia due to blood loss

Problem List:

Fatigue, short of breath:

Fast pulse: Fast respiration: Not helpful—refers to shortness of breath.

Protocols and DD:

8 A: Anemia, Heart Failure, Demonization, Depression, Hookworm.

36A: Pneumonia, Respiratory Infection, Anemia, Tuberculosis, Heart Failure, Asthma.

3C: Anemia, African Sleeping Sickness

Risk Factors:

Age and excessive menstruation.

Sorting the Differential:

Anemia fits perfectly.

Take-Home Lessons:

Although the excessive menstruation accounts for the Anemia, you should also consider that her poor diet, possible continued Malaria, and possible worms could contribute.

Disposition:

Urge her family to let her rest and tell them that she will get better slowly, over months rather than days or weeks. Urge them to give her some animal protein each week or else provide such a dietary supplement yourself. Then put her on birth control pills for at least a few months to regulate her cycles. It would be good to either check her stool for blood or else treat her for hookworms if they are prevalent in your area. She should have vitamin supplementation. You should see her again in 1-2 months since it will take at least that long to have any noticeable change.

103 Toxemia of pregnancy

Problem List:

Headache, high blood pressure, swollen feet:

Protocols and DD:

19: Hypertension, Toxemia, Kidney Failure

2A: Toxemia

61A: Toxemia, Varicose veins

Patient Risk Factors:

Pregnancy, young age.

Sorting the Differential:

Toxemia is the prime suspect and it fits perfectly.

Take-Home Lessons:

It is important to be aware of Toxemia in any pregnant woman. Some will not have the headache, or the swelling may be minimal. In nationals who normally run lower blood pressures, even a pressure that is considered normal in a Western country might be associated with Toxemia.

Disposition:

Either send her to a major hospital or treat her yourself according to the directions in the manual. A pressure this high is very dangerous. Advise her to avoid salt and to eat more lentils. If she can find animal protein, that is good. Warn the family that she might die or become disabled.

104 Kwashiorkor/Tuberculosis

Problem List:

Swollen feet, swollen abdomen, loss of appetite:

Protocols and DD:

61A: Kidney Failure, Malnutrition, Filariasis.

46: Kidney Failure, Heart Failure, Tuberculosis, Pericarditis, Malnutrition

9A: Hepatitis, Malnutrition, Tuberculosis, Cancer, Visceral Leishmaniasis.

Risk Factors:

Youngest child, poor diet, probable Tuberculosis exposure.

Sorting the Differential:

Malnutrition is obvious. The question then is why the loss of appetite. The child has abdominal Tuberculosis causing both the fluid in the abdomen and the innumerable little lumps.

Take-Home Lessons:

Look beyond the obvious Malnutrition. There is an interaction here between the patient's original loss of appetite, her being the youngest in the family (thus having sibs who willingly consume her portion of food), her vulnerability to Tuberculosis, and the abdominal TB exacerbating the whole cycle.

Disposition:

She needs nutritional support first and foremost, and also treatment for her abdominal Tuberculosis. You will need to supervise both yourself, at least for the first few weeks, until she is much improved and eager to eat.

105 Pregnancy, round ligament pain

Problem List:

Lower abdominal pain

Protocols and DD:

44: Nothing fits; since this is a pregnancy problem, consult Volume 1, chapter 6.

Sorting the Differential:

From the history you can ascertain that the problem is probably pregnancy-related. Therefore it is reasonable to go to chapter 6 in the first volume.

Take-Home Lessons:

Index B, the disease index, deals with abnormal conditions and those closely resembling these. This patient is in a different category. Her pain is a normal phenomenon in pregnancy.

Disposition:

Tell her she'll be fine and to see a gynecologist, not urgently. Her diet is good; she should continue to eat as she has been.

106 Mastitis

Problem List:

Breast mass

Protocols and DD:

35 E: Mastitis, Cellulitis, Abscess, Filariasis, Tuberculosis, Cancer
38: Cancer, Tuberculosis, Mastitis, Filariasis

Patient Risk Factors:

Nursing

Sorting the Differential:

Cancer, Tuberculosis, and Mastitis are all possibilities. Cancer is initially painless, so that is ruled out. Tuberculosis of the breast is relatively rare and develops slowly. The patient has only had this problem for the past week. Hence, Mastitis is the most likely diagnosis.

Take-Home Lessons:

This is a common ailment in nursing mothers. Sometimes they drain spontaneously and sometimes they must be drained surgically.

Disposition:

Put her on antibiotics and support her nutritionally. Possibly the mass will shrivel and disappear but more likely it will become soft and the pus can be drained out.

107 Liver failure/Schistosomiasis

Problem List:

Distended abdomen; (large liver; large spleen), decreased appetite

Protocols and DD:

46 A2: Cirrhosis, Liver Failure

46 B2: Cirrhosis, Schistosomiasis Mansoni, Cancer

46 C: Plant Poisoning, Visceral Leishmaniasis, Schistosomiasis Mansoni

B²⁶-7: Cirrhosis/Liver Failure causes: Alcoholism, Arsenic Poisoning, Brucellosis, Schistosomiasis

Patient Risk Factors:

Schistosomiasis in the area, acetaminophen ingestion, heavy drinking.

Sorting the Differential:

He has Liver Failure but it is questionable from whence it came; it could have been from Schistosomiasis, alcohol, or (least likely) acetaminophen. In any case he needs general Liver Failure treatment. If it is possible, it would be good to give a treatment for Schistosomiasis, just on the chance that is the cause.

Take-Home Lessons:

Diagnoses are not always straight-forward. If there are relatively equal contenders for the correct diagnosis, then you need to consider whether to treat one initially or both at the same time. If one of the treatments, as in this case, is merely benign and supportive, then there is no problem with treating the other simultaneously. If both treatments are antibiotics or have some risk to their use, then you should treat whichever treatment is safest first, and only treat the other if the first treatment fails after a reasonable length of time. An exception is if the person is very seriously ill and will likely die in the interval between treatment trials.

Disposition:

Supportive care for Liver Failure, forbid alcohol, praziquantel for Schistosomiasis.

²⁶ If you are using the sixth edition, this is a C- protocol, not B-.

108 Syphilis, congenital

Problem List:

Runny nose, peeling palms, large liver, large spleen

Protocols and DD:

15: STD, Malnutrition, Syphilis (congenital), Arsenic Poisoning

28: Respiratory Infection, Allergy, Measles, head injury, Syphilis, Insecticide Poisoning.

46 B1: Sickle Cell Disease, Syphilis, Thalassemia

46 B2: Heart Failure, Syphilis, Sickle Cell Disease

Patient Risk Factors:

Truck driver father, stillborn sibling.

Sorting the Differential:

Since the baby isn't fussy, it is unlikely that the peeling palms itch. Therefore you would use protocol 15 B. Syphilis accounts for everything. Sickle Cell Disease is unlikely, given the lack of family history of ill health and early deaths.

Take-Home Lessons:

Syphilis is the great imitator; there are multitudinous possible presentations. Most tropical diseases are infectious and nutritional. With an evidently-healthy mother, there are a very limited number of possible problems the child could have.

Disposition:

Benzathine penicillin. Counsel the parents. Depending on your situation, you might want to screen the parents for HIV and for other Sexually Transmitted Diseases. The father needs to be counseled concerning abstinence.

109 Malaria, severe/ dehydration

Problem List:

Headache, chills, fever, fatigue, diarrhea, bizarre behavior.

Protocols and DD:

19A: Malaria, Heat Illness, Meningitis, Encephalitis, Arboviral Fever, Relapsing Fever

1D: Febrile Seizure, Malaria, Enteric Fever, Measles, Encephalitis, Meningitis, Sepsis, Typhus, Heat Illness, Spotted Fever.

6A: Malaria, Heat Illness, Typhus, Meningitis, Encephalitis, Enteric Fever, Plague, Rabies.

56: Malaria, Measles, Enteric Fever, Katayama Disease, Visceral Leishmaniasis

Patient Risk Factors:

Residence in a malarious area, not taking any Malaria prophylaxis, history of having Malaria.

Sorting the Differential:

Heat Illness is not likely; it's too cool out. Malaria, Meningitis, Encephalitis,

Take-Home Lessons:

Particularly with common diagnoses (such as Malaria and Tuberculosis in most rural, developing areas), you will occasionally see blended diagnoses. Cerebral Malaria is described as a discreet entity, as is Choleraic Malaria. The patient has some of the characteristics of both but neither is full-blown. Of necessity the medical manual (as well as other medical texts) are written with diseases in neat categories. Patients are many times not in neat categories. They straddle diagnoses but that does not matter. She is dehydrated and also needs to be treated for the Malaria.

Disposition:

She needs fluids first because of the dehydration. If you have an IV line in, then you can give a loading dose of quinine (along with sugar).

110 Anemia

Problem List:

Fatigue, shortness of breath, fast pulse, fast respiration

Protocols and DD:

8 A: Anemia, Heart Failure, Demonization, Depression, Hookworm

3 C->36: Respiratory Infection, Anemia, Heart Failure

4 C-->36: ditto

Patient Risk Factors:

Childbirth, heavy menstruation, large spleen.

Sorting the Differential:

Anemia and Heart Failure are on both lists. They are both correct because severe Anemia can cause Heart Failure. The Anemia probably has two causes: the large spleen and also the blood loss.

Take-Home Lessons:

In areas that have not had prior medical care, one is likely to see a lot of Anemia and it is likely to have multiple causes.

Disposition:

A transfusion would set the patient right very quickly. However, there is always a risk of Hepatitis and/or HIV transmission. It is better to treat her with iron, multivitamins, and folic acid. She should be on birth control pills to control the menstrual bleeding.

111 Scabies

Problem List:

Itchy rash

Protocols and DD:

15 A: Scabies, Tinea, Contact Dermatitis, Eczema, Kidney Failure,

Patient Risk Factors:

None

Sorting the Differential:

Protocol 15 B: Nothing really fits. There are no blisters so you would consider the maybe-blisters and no-blister sections. She has no swelling so this eliminates Filariasis. It is not extremely hot so Heat Illness is unlikely. Arsenic Poisoning is possible.

Protocol 15 A: You should also consider itchy rashes because sensitivity to itching varies so much between people. Scabies fits perfectly, particularly the sparing of the face.

Take-Home Lessons:

Scabies usually itches a lot but sometimes diseases don't read the book.

Disposition:

Send her parents to the market to buy Omo detergent. Have them wash her in Omo, using a corn cob, three times a day for 3 days. Thereafter (or instead) give them iodine ointment to cover her body. Her clothes and mattress should be put out in the sun to kill the mites that might be hiding therein.

112 Chloroquine Overdose

Problem List:

Ingestion of chloroquine

Protocols and DD:

11: Potentially troublesome dose is 50 mg/kg.

Patient Risk Factors:

Age of patient.

Sorting the Differential:

Nothing to sort.

Take-Home Lessons:

One is inclined to dismiss the ingestion of just a few tablets. However, this child only weighs 7 kg so a potentially lethal dose is 2.3 tablets.

Disposition:

You need to make him vomit however you can. Too bad there is no ipecac. You should put some activated charcoal down the tube. This may make him vomit or it may absorb the chloroquine and render it harmless.

113 Shingles

Problem List:

Pain, left chest; Blistery skin rash

Protocols and DD:

15: Herpes, Shingles, Spotted Fever

35D: Costal Chondritis, Muscle Strain, Arthritis, Shingles, Syphilis, Ricketts, Respiratory Infection.

Patient Risk Factors:

None

Sorting the Differential:

Shingles is the only diagnosis that fits. Both the pain and the rash are in a band around one side of the chest.

Take-Home Lessons:

Remember the appearance of this; it is a classical appearance for Shingles.

Disposition:

Put her on acyclovir if you have any. Otherwise just supply pain medication. She will recover in time, although the pain may drag on for months.

114 Leprosy, Lepromatous

Problem List: Red skin, right cheek; swollen right cheek; pain right face; pain right neck; numbness right cheek.

Protocols and DD:

16C: Abscess, Cellulitis, Leprosy
10A: Stroke, Leprosy, Tuberculosis
10B: Tuberculosis, Leprosy, Syphilis
30C: Leprosy, Angina
31A: Tuberculosis, HIV Infection, Leprosy

Patient Risk Factors:

None evident except that he lives in an area where Leprosy is known to occur.

Sorting the Differential:

Leprosy fits the best. The line with lumps along it on his neck (a swollen nerve) is consistent with that diagnosis. The patient has not had a chronic cough nor a headache and stiff neck. An Abscess or Cellulitis should cause swollen lymph nodes and they should progress over time.

Take-Home Lessons:

Patients with skin that is not entirely black might have characteristics of Caucasian skin.

Disposition:

He needs to be on dapsone and rifampin for at least 6 months. You should treat him yourself.

115 Kidney Failure

Problem List:

Fatigue, headache, body swelling, high blood pressure, rapid respiration.

Protocols and DD:

19B: Hypertension, Toxemia, Kidney Failure

2A: Hypertension, Heart Failure, Kidney Failure, Addiction, uppers, Thyroid Trouble

4C->36A: Diabetes, Kidney Failure, Sepsis, Addiction.

Patient Risk Factors:

Sore throats not properly treated.

Sorting the Differential:

Kidney Failure appears in all the differentials.

Take-Home Lessons:

One can get the impression from the picture that she is fat. She is not. Note the little bit of her upper arm that shows. It is thin.

General body swelling can be due to Liver Failure, Heart Failure, Kidney Failure, or Malnutrition. Malnutrition should be obvious. Heart Failure always causes shortness of breath on exertion. Sometimes there is shortness of breath with lying down, relieved by sitting up. Liver failure always causes jaundice (yellow whites of the eyes) and/or bilirubin in the urine. In this case you cannot examine the whites of her eyes. However, her skin color is light enough to manifest a yellow hue and it does not. Her urine is negative for bilirubin. This leaves us with Kidney Failure as the most likely option.

Disposition:

She will likely die. You can start her on some medications but it's unlikely that her kidney function will be restored.

116 Cancer

Problem List:

Abdominal pain, loss of appetite, fatigue; large, lumpy liver.

Protocols and DD:

40 A: Gallbladder Disease, Peptic Ulcer

40 B->46 B2 Cancer, Amebiasis, Ascariasis, Heart Failure, Hepatitis,

09A: Ascariasis, Hookworm, Lead Poisoning, Cancer

Patient Risk Factors:

Advanced age.

Sorting the Differential:

The large, lumpy liver and gradual onset make Cancer most likely.

Take-Home Lessons:

Cancer is a diagnosis you should always consider, especially in older patients. It is one diagnosis that seldom has a happy ending.

Disposition:

Pain medication and spiritual counsel are most appropriate.

117 Enteric Fever

Problem List:

Fever, cough, headache, abdominal pain

Protocols and DD:

1D: Malaria, Enteric Fever, Measles, Typhus

19A: Typhus, Enteric Fever, Arboviral Fever

37A: Pneumonia Measles, Enteric Fever, Amebiasis

39B: Strep Infection, Pneumonia, Enteric Fever, Malaria, Arboviral Fever, Typhus

B²⁷-9: Enteric Fever, Typhus

Patient Risk Factors:

Unsanitary environment.

Sorting the Differential:

Typhus and Enteric Fever are the main contenders. Since the fever and the other symptoms seem to have come on at the same time, Enteric Fever is more likely. However, it would be prudent to choose an antibiotic that would cover both possibilities.

Take-Home Lessons:

Enteric Fever is vastly overdiagnosed in most developing areas. If a patient says “I have Typhoid Fever,” he is given antibiotics for it. For the most part any patient who is alert enough to say that doesn’t have it. The fever of typhoid always is sustained; therefore anyone who does not have a demonstrable fever doesn’t have the disease (unless it’s the first day). Other than that, there are 4 indications of which the person must have at least 3: A yellow-coated tongue, some abdominal symptoms (pain, diarrhea, constipation, vomiting), a slow pulse relative to the fever (if over 2 years old), and an altered mental status. Amongst these, the altered mental state is most sensitive as a symptom. You should seriously doubt the diagnosis in anyone with a totally normal mental state. Other than that, headache and cough are common but are not universally present. Since the fever is slow in onset, the patient will not report shaking chills or drenching sweats. Laboratory determinations are notoriously unreliable, in particular cultures and the Felix Weil blood test.

Disposition:

Antibiotics, nutritional support, follow him closely so that if he gets sicker you can send him out for higher level care.

²⁷ If you are using the sixth edition, this is a C- protocol, not B-.

118 Tropical Splenomegaly/Hydatid Disease

Problem List:

Large, firm abdominal mass; small, soft abdominal mass; fatigue.

Protocols and DD:

41 A: Malaria, Tropical Splenomegaly, Visceral Leishmaniasis

41 B->46 B1: Cancer, Malaria, Mononucleosis, Hydatid Disease, Tropical Splenomegaly

41 B->46 B3: Cancer, Burkitt Lymphoma, Tuberculosis

Patient Risk Factors:

Community with many swollen spleens, grew up with dogs in the house.

Sorting the Differential:

The main problem is deciding if the larger mass is kidney or spleen. The notch in the side of the mass doesn't help you to decide; spleens and kidneys both have notches. It is spleen because of the urobilinogen in the urine. The smaller mass is caused by Hydatid Disease. If the spleen were normal size, you'd never feel the Hydatid Disease because it is too small. It is Hydatid because it is quite soft, almost as soft as a water balloon.

Take-Home Lessons:

Occasionally patients have two problems, not one

Disposition:

Treat the Tropical Splenomegaly first to confirm your diagnosis by successful treatment. Then treat the Hydatid Disease also. This doesn't absolutely need treatment now, but it will grow to a very large size by the time she is middle age, causing significant problems and shortening her life.

119 Vitiligo

Problem List:

Light-colored skin

Protocols and DD:

16: Leprosy, Vitiligo, Tinea,

Patient Risk Factors:

None

Sorting the Differential:

The patient has absolutely no symptoms other than the light-colored skin. Thus Leprosy is out of the question.

Take-Home Lessons:

When a disease process is advanced (it has been undiagnosed for a long time) it can appear strange. It is useful to ask oneself how this would have appeared at a time intermediate between the normal condition and the present condition.

Disposition:

Reassurance, cosmetic creams, sun block.

120 Polio vs. TB vs. NeuroBrucellosis

Problem List:

Loss of appetite/weight loss; weakness left leg; left leg shorter than right

Protocols and DD:

9A: Malaria, Hepatitis, Tuberculosis, HIV Infection, Brucellosis, Typhus

8B: Polio, Meningitis, Diphtheria, Brucellosis, Tuberculosis, Spinal Neuropathy

37A: Asthma, Respiratory Infection, Tuberculosis

62: Polio, Tuberculosis, prior injury

Patient Risk Factors:

None

Sorting the Differential:

Tuberculosis, Polio, and Brucellosis are all possibilities. This was a real patient and he was a diagnostic dilemma. This kind of thing needs to be sorted out with x-rays and/or blood tests. It turned out that the problem was TB of his lower spine which impinged on the nerves that went to his leg, causing the weakness. With Polio the child does not usually act ill for a very long time like this boy.

Take-Home Lessons:

Some diagnoses are difficult and the only way to sort things out is to go to higher-level care.

Disposition:

If higher level care were not available, you would want to do a trial treatment. However, you should treat ONLY one disease and be careful about your drug selection. If you treat with something effective for both TB and Brucellosis, then, if it works, you still don't know which disease he has. This will make subsequent management very difficult. This excludes the use of rifampin which works for both TB and Brucellosis. Try a Brucellosis treatment first because he may get much sicker with the first dose. Then you know that the diagnosis is correct. If he doesn't get sicker with the first dose, then you will have to treat for a month to know if Brucellosis is correct or not. With both Brucellosis and TB, the patient recovers slowly. You cannot expect improvement within a week.

121 Tropical Ulcer

Problem List:

Skin broken open

Protocols and DD:

17 B2: Tropical Ulcer, Zinc Deficiency, Tuberculosis, Buruli Ulcer, Cutaneous Leishmaniasis, Abscess.

Patient Risk Factors:

Poor diet, farming work.

Sorting the Differential:

The lower leg is a body part presumably without sexual contact.

Take-Home Lessons:

This is a typical appearance for a Tropical Ulcer.

Disposition:

Clean and dress this daily or as often as possible. Provide nutritional support.

122 Loiasis

Problem List:

Swelling, left eyelid; pain in left eye

Protocols and DD:

22 A, B: Larva migrans, Loiasis

23 E: Eye Infection, Thyroid Trouble, Loiasis.

Patient Risk Factors:

Travel within central Africa which is rainforest and humid jungle.

Sorting the Differential:

Chaga's disease would be a consideration except that the patient has never been in the Americas. Loiasis fits best, though not perfectly.

Take-Home Lessons:

This does not fit perfectly but it is the best fit of the possibilities.

Disposition:

Treat her with albendazole for 21 days.

123 Syphilis, congenital

Problem List:

Pain and redness, right eye; rough, white corneal surface

Protocols and DD:

22A: Xerophthalmia, Leprosy, Iritis, Keratitis.

23F: Xerophthalmia, Keratitis

Patient Risk Factors:

Parents' unhappy marriage.

Sorting the Differential:

The initial diagnosis is Iritis, Keratitis, or both. However, these are not end diagnoses. Iritis may be caused by Leprosy, Tuberculosis, Syphilis, Larva Migrans, Reiter Syndrome, Leptospirosis, or an eye injury. Keratitis may be caused by Trachoma, Herpes, Syphilis, Onchocerciasis, or Leprosy. Checking these out, congenital Syphilis fits the best.

Take-Home Lessons:

It is worthwhile knowing congenital Syphilis and knowing it well. Syphilis acquired before birth can strike a person, as if out of the blue, anytime up to age 30. In developing areas, it is a common cause of deafness and blindness. Much of the blindness is due to corneal opacities. The medical term for this is interstitial keratitis. While treatment may not improve the patient's current situation, it will prevent spread of the problem to the other eye and also prevent disastrous consequences of tertiary Syphilis, such as insanity and difficulty walking.

Disposition:

Three injections of benzathine penicillin, 10 days apart.

124 Lymphogranuloma Venereum

Problem List:

Swelling, right groin

Protocols and DD:

52A->B²⁸-1E: Sexually Transmitted Disease

Patient Risk Factors:

Patient was in the military and travelled a lot.

Sorting the Differential:

The scars on his genitals indicate previous genital ulcers. Therefore, you should treat for all genital ulcers: Lymphogranuloma Venereum, Syphilis, Donovanosis, and Chancroid. When you read the descriptions of these, LGV fits the best.

Take-Home Lessons:

In developing areas, diseases present late. If there is a problem with sorting things out, think back, how this condition might have looked years ago.

Disposition:

If you have continued contact with the man, try treating for LGV first and see what happens. If he does not clear up, then treat for the other genital ulcer disease. He should, in any case, be either tested for syphilis or treated for it, since it has such devastating long-term consequences.

²⁸ If you are using the sixth edition, this is a C- protocol, not B-.

125 Syphilis, congenital

Problem List:

Failure to thrive, Fevers(?), Abnormal head shape, sunken bridge of the nose, large liver

Protocols and DD:

09A1: Syphilis, Rickets, Tuberculosis, Scurvy, HIV Infection

21D: Syphilis, Rickets, Sickle Cell Disease, Thalassemia

28: Mongolism, Cretinism, Thalassemia, Leprosy, Yaws, Syphilis

46B2: Thalassemia, Syphilis, Rickets, Amebiasis

Patient Risk Factors:

Mother had a stillbirth.

Sorting the Differential:

Rickets and Syphilis are top contenders. The mother does not keep the child covered, nor is she entirely covered, so Rickets is unlikely. She had a prior stillbirth which may have been due to Syphilis.

Similar Diseases:

Rickets, Scurvy, HIV Infection, Thalassemia.

Take-Home Lessons:

Syphilis has been known, for the past 100 years at least, to be the great imitator of many other diseases. Congenital Syphilis symptoms can begin at any age from birth up to age 30. Moreover, its treatment is relatively safe and very effective. Not treated, it has devastating consequences later in life.

Disposition:

Give the child a series of 3 injections of benzathine penicillin. Also treat the parents and possibly siblings. Add multivitamins also, just in case your diagnosis is wrong and the child has Rickets or Scurvy instead.

126 Enteric Fever

Problem List:

Fever, Abdominal pain, Abdominal swelling.

Protocols and DD:

1D: Enteric Fever, Roseola, Thyroid Trouble, Spotted Fever, Typhus.
39B: Irritable bowel, Impaction, Enteric Fever, Ascariasis, Dysentery, Tuberculosis, Lead Poisoning.

Patient Risk Factors:

Poor sanitation, age of exploring and putting hands in the mouth.

Sorting the Differential:

You should go to Protocol B²⁹-9, Abdominal Pain and High Fever.

Similar Diseases:

Urinary Infection or Kidney Infection, which would have showed up on a dipstick.

Take-Home Lessons:

In areas of poor sanitation, Enteric Fever is common. It is by far the most common cause of a sustained, high fever accompanied by abdominal pains, except for Urinary Infection. Diseases that require careful histories, such as Enteric Fever, are particularly difficult to diagnose in young children. Children under 2 years old do not have the slow pulse relative to the fever. It is hard to evaluate their mental status.

Disposition:

Treat with antibiotic. In areas with previous medical care, much Enteric Fever is resistant to the common, cheap antibiotics. While ciprofloxacin is best not used in children under 16 years old, it has been used extensively in younger children in the States with no adverse effects on subsequent growth. It is a possible choice in this case.

²⁹ If you are using the sixth edition, this is a C- protocol, not B-.

127 Anemia, uncertain cause

Problem List:

Rapid pulse, short of breath, fatigue

Protocols and DD:

03 C: → 36 A

36 A: Anemia, Dehydration, Sepsis, Stress, Shock, Kidney Failure, Addiction, Diabetes

08 A: Anemia, Heart Failure, Demonization, Depression

Patient Risk Factors:

None

Sorting the Differential:

Anemia fits fine. The question is why is she anemic? There is no obvious reason. Of the various causes, a hidden whole-body disease such as Cancer, or Tuberculosis, or a nutritional cause would seem most likely.

Similar Diseases:

Heart Failure, Demonization

Take-Home Lessons:

This was a real patient. It was not at all obvious what the cause of her anemia was. Sometimes when you cannot nail down a specific diagnosis, you are obliged to shotgun treat the symptoms.

Disposition:

Treat her with iron and multiple vitamins. Urge her to eat some animal products so she takes in vitamin B-12. Recheck her in a month or two.

128 Osteomyelitis

Problem List:

Pain in left leg
Swelling in left leg

Protocols and DD:

61B: Pyomyositis, Trichinosis, Cellulitis, Gangrene, Osteomyelitis.
B³⁰-6: Abscess, Pyomyositis, Osteomyelitis.

Patient Risk Factors:

Living in a rural area, being male and being poor.

Sorting the Differential:

Osteomyelitis fits perfectly.

Similar Diseases:

Cellulitis should show more visible redness and swelling. It would either become an Abscess or resolve well before 2 months. Necrotizing fasciitis has a much more rapid onset; he would be dead by now. That is irrelevant anyway because he would need surgery.

Take-Home Lessons:

This is another case where simple folk in rural areas present very late. If you are puzzled by a diagnosis, think of how the patient might have looked some weeks ago as this was developing.

Disposition:

The patient was taken to a Christian hospital that offered care for poor people. He was there for months and his bill was astronomical. He ended up being able to walk on crutches, but he will die shortly after his parents die. In the culture, he cannot earn his own way with a lower limb disability, and no one will feed him.

³⁰ If you are using the sixth edition, this is a C- protocol, not B-.

129 Head lice

Problem List:

Lumps in back of the neck

Protocols and DD:

31A: African Sleeping Sickness, Lice, Rubella, Ear Infection, Impetigo, Mononucleosis, Syphilis, Cancer

Patient Risk Factors:

She has head lice.

Sorting the Differential:

She is not at all ill and has no evidence of a scalp infection. Even if the area were rife with African Sleeping Sickness, she is not ill and has not had a recent fever. Obviously people with head lice can get ASS, but then they should have some symptoms to show for it.

Similar Diseases:

Anything that can cause large lymph nodes, mostly localized infections.

Take-Home Lessons:

Take note of the presence of lice, either head lice or body lice. They can cause problems. Noticing the fine, white nits on the hairs will keep you from chasing useless, exotic diagnoses.

Disposition:

Have her parents wash her hair in kerosene several times a day. Once she gets rid of the head lice, the lymph nodes will disappear on their own.

130 Candidiasis; maybe HIV Infection

Problem List:

White scum on tongue and mouth

Protocols and DD:

29 C2: Candidiasis, Cancer

Patient Risk Factors:

Parent treated for an STD. Parents who are promiscuous tend to develop STD's and HIV infection. An HIV positive child is likely to develop Candidiasis.

Sorting the Differential:

Mouth Cancer would be most unusual at this age and it is something you cannot treat anyway.

Similar Diseases:

None

Take-Home Lessons:

Fix the appearance of this in your mind. It is very common in children and does not necessarily mean that the child is HIV positive.

Disposition:

Treat the Candidiasis. Urge the parents to have the child HIV tested.

131 Typhus

Problem List:

Headache, fever, rash, lethargy, slow pulse relative to the fever

Protocols and DD:

19 A: Influenza, Malaria, Enteric Fever, Typhus, Arboviral Fever

01 D: Enteric Fever, Encephalitis, Meningitis, Sepsis, Typhus, Spotted Fever, Rat Bite Fever

14 A: Strep Infection, Spotted Fever, Enteric Fever, Meningitis, Rubella, Mononucleosis, Arboviral Fever, Typhus

05 A: Arboviral Fever, Encephalitis, Enteric Fever, Meningitis, Relapsing Fever, Spotted Fever, Typhus

03 B: Enteric Fever, Dengue Fever, Spotted Fever, Typhus

Patient Risk Factors:

None obvious.

Sorting the Differential:

Enteric Fever, Arboviral Fever, Spotted Fever, and Typhus are all possible. Typhus fits best because he was sick for several days before the fever started.

Similar Diseases:

Enteric Fever and Spotted Fever are both possible. The chronology makes Typhus more likely.

Take-Home Lessons:

Pay attention to chronology to separate out similar diseases. If and when this is impossible, for example if a language barrier prevents a good history, then try to find some medication that will cover all of the possibilities. In the case of a fever plus headache plus rash, this is quite easy.

Disposition:

Treat him with chloramphenicol or ciprofloxacin.

132 Herpes vs. vitamin deficiency

Problem List:

Sore, cracked lips and inside mouth
Symmetrical skin rash, rough and blackish

Protocols and DD:

29 C3: Herpes, Measles, Shingles, Chicken Pox, Leptospirosis, Syphilis, Yaws, Diphtheria, Candidiasis, Carbon Monoxide Poison, Pellagra, Lassa Fever.
29 C2: Strep Infection, Pellagra, Alcoholism, Sprue, Malnutrition, Malabsorption, Candidiasis, Anemia due to lack of iron.
29 C4: STD's; Treponarid, Diphtheria, Herpes, Impetigo
15 B: STD, Impetigo, Malnutrition, Tinea, Pellagra, Arsenic Poisoning
16 B: Scurvy, Malnutrition, Pellagra, Arsenic Poisoning

Patient Risk Factors:

None

Sorting the Differential:

This is difficult. The mouth and lips problem are most likely either Herpes or some nutritional problem. The skin rash is most likely a nutritional deficit or Arsenic Poisoning. STD is the only one that could explain both but that doesn't fit at all.

Similar Diseases:

Too many to mention.

Take-Home Lessons:

Sometimes patient diseases don't read the books. This was a real case and the narrative is quite accurate.

Disposition:

Because of the extreme pain, Herpes seemed to be most likely. Since multivitamins never hurt anyone, we added that. He cleared up spectacularly within about 2 weeks.

133 Dysentery, bacterial vs. Schistosomiasis Mansoni

Problem List:

Bloody diarrhea

Protocols and DD:

56 B: Dysentery, Hookworm, Schistosomiasis Mansoni, Tuberculosis, Trichuriasis, Cancer

Patient Risk Factors:

Location in a rural area with no sanitation.

Sorting the Differential:

The most likely are Dysentery, Tuberculosis, and Schistosomiasis Mansoni in that order.

Similar Diseases:

If she were sexually active, you would have to consider the Sexually Transmitted Diseases.

Take-Home Lessons:

Sometimes you simply cannot win. This was a real patient. She did not improve after several antibiotics, nor did she improve with treatment for Schistosomiasis Mansoni. Metronidazole, likewise, did not help. A consultant from the States suggested Prednisone, which helped a lot.

Disposition:

Dysentery is most likely so you will treat that first; it is probably bacterial so you will use gram negative antibiotics rather than metronidazole. Give that time to work. Then try treating for the other possibilities, one at a time, waiting for each treatment to take effect.

134 Enteric Fever

Problem List:

Fever, headache, abdominal pain, somnolence, pulse slow relative to the fever

Protocols and DD:

01D: Malaria, Enteric Fever, Measles

03B: Enteric Fever, Typhus, Yellow Fever

19A->B³¹-2: Enteric Fever, Typhus, Arboviral Fever, Malaria

39->B-9: Arboviral Fever, Typhus, Kidney Infection, Strep Infection, Enteric Fever

B-10A: Enteric Fever, Typhus, Sepsis,

Patient Risk Factors:

Poor water sanitation.

Sorting the Differential:

Enteric Fever fits the best although Typhus is possible. Since she was not ill before the fever, that makes Typhus unlikely.

Similar Diseases:

Arboviral Fever is possible but that requires only supportive care which you will give anyway.

Take-Home Lessons:

This is a very typical case of Enteric Fever. The most sensitive symptom is the change in mental status. The lack of a peculiar body odor does not preclude the diagnosis. If her pulse were not slow relative to the fever, that would not preclude the diagnosis either. The objective, present fever plus the coated tongue and changed mental status are enough to make the diagnosis.

Disposition:

Treat her with antibiotics. Ciprofloxacin is probably the best.

³¹ If you are using the sixth edition, this is a C- protocol, not B-.

135 Visceral Leishmaniasis

Problem List:

Large spleen

Protocols and DD:

46 B1: Hydatid Disease, Malaria, Mononucleosis, Sickle Cell Disease, Tropical Splenomegaly, Visceral Leishmaniasis

Patient Risk Factors:

Living in an affected area

Sorting the Differential:

The main differential is between Hydatid Disease and Visceral Leishmaniasis. Tropical Splenomegaly is out of the question since she has been treated for that for the past year and has not responded at all. She doesn't feel bad enough for this to be Brucellosis.

Similar Diseases:

As above: Hydatid Disease, Tropical Splenomegaly, Brucellosis.

Take-Home Lessons:

There comes a time when you must say, "Enough is enough." Her spleen continually got bigger while she was on anti-malarial medication. She is really too young for this to be Hydatid Disease, but it is possible.

Disposition:

Send her to the private clinic and request a spleen biopsy. The VL critters should show up. If this is not possible, then try to treat for a short time. The medication for VL kicks in very rapidly; within 3-4 days, the spleen size will be markedly smaller.

136 Hernia

Problem List:

Swelling in groin

Protocols and DD:

52 A: LGV, Hernia

Patient Risk Factors:

None known

Sorting the Differential:

Not much to sort.

Similar Diseases:

Since the swelling starts at the groin, this can only be a Hernia. The bowel sounds you hear there also confirm that there are intestines inside.

Take-Home Lessons:

Keep this appearance in mind. It is different than hernias in the States. It's one more example of conditions showing up late. In the States, one distinguishes direct vs. indirect hernias on the basis of physical exam subtleties. In Africa, hernias are above the knees or below the knees. This one is still above his knees.

Disposition:

Send him for a repair at the hands of a good surgeon when it is convenient. This is not an emergency..

137 Malaria, Post-partum, Rheumatic Fever

Problem List:

Fever, knee pain and swelling, upper left abdominal pain, headaches

Protocols and DD:

01C: Malaria

60 D: Rheumatic Fever, Arthritis

41: Malaria, Tropical Splenomegaly; Visceral Leishmaniasis, Thalassemia, Schistosomiasis Mansoni, Sickle Cell Disease

19A: ->B³²-2: Treat Malaria first

Patient Risk Factors:

The patient lives in a malarious area. She is postpartum so her risk of getting Malaria and of dying from it is increased.

Sorting the Differential:

It seems clear that she has Malaria, but there is something else going on. Malaria does not cause hot, swollen joints. You need to pursue the Rheumatic Fever/Arthritis information. Pursuing that, the episodic, symmetrical swellings are most consistent with Rheumatoid Arthritis and Rheumatic Fever. Rheumatoid Arthritis can be treated symptomatically. If this is Rheumatic Fever, this time or another time, it could involve her heart valves and kill her.

Similar Diseases:

HIV Infection, Reiter Syndrome

Take-Home Lessons:

Usually you will be seeking one diagnosis that explains it all. In this case, a single diagnosis is not possible.

Disposition:

Treat her yourself, using antimalarials and also benzathine penicillin injections. It is mandatory to prevent further episodes of Rheumatic Fever.

³² If you are using the sixth edition, this is a C- protocol, not B-.

138 Relapsing Fever or Arboviral fever

Problem List:

Fever/chills, vomiting, headache, whole-body pain

Protocols and DD:

B³³-2: Arboviral Fever, Leptospirosis, Relapsing Fever, secondary Syphilis, Dengue Fever

Patient Risk Factors:

Rural area, body lice.

Sorting the Differential:

Arboviral Fever and Dengue Fever only require supportive care which you will do in any case. Secondary Syphilis is unlikely since she is in a stable relationship. Relapsing Fever fits better than Leptospirosis since her pains are mainly in her limbs rather than her back.

Similar Diseases:

Those listed above. Lyme Disease is not a consideration since that can only be acquired in a temperate climate.

Take-Home Lessons:

If a patient who has had repeated Malaria says, "This is not Malaria," then believe him or her. Even without her saying this, the red spotted rash distinguishes this from Malaria. Malaria does not cause a rash, though it may cause bleeding into the skin. Many of the malaria look-alikes do cause genuine rashes.

Disposition:

Treat her, using penicillin, doxycycline, or erythromycin.

³³ If you are using the sixth edition, this is a C- protocol, not B-.

139 Tropical Ulcer; Demonization

Problem List:

Skin ulcer

Protocols and DD:

17 B2: Tropical Ulcer, Zinc Deficiency, Myiasis, Buruli Ulcer, Cutaneous Leishmaniasis

Patient Risk Factors:

Not in control due to Demonization.

Sorting the Differential:

You see no critters in the wound so it's not Myiasis. The edges are not undermined so it is not Buruli Ulcer. You needn't exclude Zinc Deficiency; just give her some zinc to cover that. The history of the wound makes Cutaneous Leishmaniasis less likely than Tropical Ulcer.

Similar Diseases:

Cutaneous Leishmaniasis

Take-Home Lessons:

It is going to be difficult to treat this lady. The same factors that caused the injury are likely to frustrate its healing.

Disposition:

You can try to treat her yourself, engaging the services of a national pastor to deal with the demon problem. However, it might be wiser to send her to a hospital for skin grafting. You will have to send a responsible person with her, because her behavior must be controlled.

140 Hydrocele

Problem List:

Swollen scrotum

Protocols and DD:

52 A: Hydrocele

Patient Risk Factors:

None

Sorting the Differential:

Nothing to sort.

Similar Diseases:

None, since the light shines through. Otherwise it could be an Abscess, Filariasis, Mumps, Leprosy, or some Sexually Transmitted Disease. If the swelling extended up to the groin, you would have to consider Hernia.

Take-Home Lessons:

A flashlight and a dark room are frequently necessary for eye examination. In this case, they were useful for diagnosing the hydrocele.

Disposition:

Send him to a private clinic when it's convenient. No rush. The parents can save up for a year and pay for it themselves.

141 Syphilis, congenital

Problem List:

Bowed legs

Protocols and DD:

62: Congenital Syphilis

Patient Risk Factors:

Travelling father, history of STD in the family, stillborn siblings.

Sorting the Differential:

There is not much to sort.

Similar Diseases:

Rickets is similar but she does not have risk factors for this.

Take-Home Lessons:

This is classical congenital Syphilis. The enlarged collar bone joint is part of the same picture. Note that she was healthy from birth to the present. Congenital Syphilis commonly shows up out of the blue in previously-healthy youth. It can do so up to age 30.

Disposition:

She needs 3 benzathine penicillin injections, 10 days apart, in order to avoid the dreadful complications of tertiary Syphilis. Probably both parents should have the same, and any siblings who have evidence of the same problem.

142 Syphilis, congenital

Problem List:

Failure to thrive, blistering skin rash, large liver and spleen.

Protocols and DD:

09A: Syphilis, congenital

15B: Syphilis, congenital.

46B1: Malaria, Syphilis, Thalassemia

46B2: Ascariasis, Syphilis, Thalassemia

Patient Risk Factors:

Father has open sores.

Sorting the Differential:

Syphilis appears in all lists.

Similar Diseases:

Most other blistering rashes in childhood also involve the patient having a high fever. This child does not.

Take-Home Lessons:

Syphilis never causes a blistering rash when it is acquired by sexual contact. It commonly causes a blistering rash when it is acquired prenatally. The blistering rash appears at any time from birth up to 2 years of age. This child is two, but the limit should not be taken as absolute. He is close enough.

Remember that treating syphilis saves lives and saves families. The end result of syphilis is devastating in at least 2/3 of the cases. This devastation can be from either acquired or congenital infections.

Disposition:

Give him benzathine penicillin injections, three of them, 10 days apart. Treat the mother and father also, if you can. Test the other children.

143 Tuberculosis, lung

Problem List:

Cough, fatigue, loss of appetite, fever

Protocols and DD:

37 B: Respiratory Infection, Tuberculosis

09 A2: Hookworm, Tuberculosis, HIV Infection, Malnutrition, Brucellosis, Lead Poisoning

01 B: Tuberculosis, HIV Infection, Visceral Leishmaniasis, Cancer

Patient Risk Factors:

Tuberculosis is common in the community.

Sorting the Differential:

Tuberculosis is most likely. He may have HIV Infection additionally.

Similar Diseases:

TB and HIV Infection can be indistinguishable and they frequently coexist.

Take-Home Lessons:

This is a typical case of lung Tuberculosis. Lung TB is uncommon from age 5-10; it commonly arises during the early teen years. Kyle's obviously emaciated appearance is typical after the disease has been present for a while.

Traditional healers are good at evaluating the site of a disease; pay attention to the location of burn marks. The healer probably made the burn on the back because he found enlarged lymph nodes in the chest.

Disposition:

Treat him or send him to a government TB program, if there is one available.

144 Mumps

Problem List:

Fever, swelling on both sides of the jaw

Protocols and DD:

01 B: Toxoplasmosis, Serum Sickness

29 C6: Mumps, Abscess, Burkitt Lymphoma, Osteomyelitis, Cancer

Patient Risk Factors:

None

Sorting the Differential:

The differentials do not overlap but there are not many conditions in total. Mumps is the only diagnosis where the swelling is not symmetrical.

Similar Diseases:

None. If the swelling were on one side only, one would have to consider the other items in the protocol 29 differential.

Take-Home Lessons:

Expect to see many cases of the usual childhood diseases which have been eliminated in the West by immunizations: Measles, Mumps, Rubella, Chicken Pox, Scarlet Fever being the most important. These diseases usually occur in waves. If you see one case of Chicken Pox, more will be on their way.

Disposition:

He will recover on his own. Keep him away from males who have passed puberty.

145 Syphilis, tertiary

Problem List:

Deafness
Difficulty walking

Protocols and DD:

25: Syphilis, Brain Damage, Plant Poisoning
07 E: Parkinson's disease, HIV Infection, Plant Poisoning, Syphilis, Radiation
Illness

Patient Risk Factors:

Widowed and not remarried, occupation involving travelling.

Sorting the Differential:

Parkinson's disease can cause uncoordination, but it also causes trembling at rest which he does not have. He could have HIV Infection but then he should have had more recent illnesses with fevers.

Similar Diseases:

Anemia due to vitamin deficiency can cause walking difficulties; you should treat him with multivitamins and see what that does, before embarking on a tertiary Syphilis treatment.

Take-Home Lessons:

Syphilis is the great imitator. It can present in a myriad of ways. In a man this age who has been healthy most of his life, his problem is from acquired Syphilis. In 1/3 of late syphilis cases, the person will have some kind of nerve degeneration problem. This can take the form of deafness, blindness, or the inability to know where one's limbs are in space.

Disposition:

Treat him yourself with three injections of benzathine penicillin. His deafness won't change but some of his ability to walk is restored.

146 Dehydration, uncertain cause; cholera

Problem List:

Vomiting, diarrhea, unconscious, rapid pulse, low body temperature

Protocols and DD:

47: Treat for Dehydration; consider Turista, Giardiasis, Dysentery, Gastroenteritis

56: Treat for Dehydration; consider Rotavirus, Cholera, Giardiasis, Cyclosporiasis, Cryptosporidiosis.

05B->05A: Grossly abnormal vital signs

03C: Dehydration, Diabetes

01A: Requires that the patient be warmed and rechecked.

Patient Risk Factors:

Ingesting contaminated water.

Sorting the Differential:

This doesn't really matter at this point. The child needs fluids and he needs them fast.

Similar Diseases:

There are a myriad of diseases that can cause this; Giardiasis is probably the most common.

Take-Home Lessons:

This is one case in which symptomatic treatment is life-saving. Always have available the supplies that you need to start intraperitoneal fluids. Even if you have IV fluid with you and a lot of experience in starting IV's, you cannot possibly find a vein on a child who is this dehydrated.

Disposition:

Start intraperitoneal fluids. The child is at least 10% dehydrated. He weighs 5 kg so he should get a minimum of 500 ml of fluid. He should be held with his head and chest higher than his pelvis so the fluid in his abdomen does not impair his breathing. In the meanwhile, you should warm the child, and give him a single dose of antibiotic and metronidazole (to cover giardiasis).

147 Cretinism

Problem List:

Developmental delay

Protocols and DD:

12 D: Malnutrition, Mongolism, Pellagra, Cretinism, Radiation Illness, also various prenatal illnesses can cause this kind of thing.

Patient Risk Factors:

Residence in an area where there is much goiter.

Sorting the Differential:

His diet is well-rounded which eliminates Malnutrition and Pellagra. His mother was healthy during the pregnancy. There is no radiation exposure in the area.

Similar Diseases:

Down Syndrome, also known as Mongolism.

Take-Home Lessons:

Down Syndrome is not treatable. Cretinism is treatable with thyroid hormone. This was a real case. The lack of a crease going entirely across the hand and the open fontanel were votes in favor of Cretinism. If it were Down Syndrome but with normal thyroid, then the thyroid hormone would have caused a very rapid pulse. It could have been stopped before it did any damage. As a matter of fact, the child started crawling and trying to talk within a few weeks of starting on the medication. He started to act curious. His pulse rate was normal.

Disposition:

Send him to a specialist, or treat him with thyroid hormone.

148 Syphilis, secondary

Problem List:

Fever, rash, fatigued, loss of appetite, aching all over.

Protocols and DD:

01 B: Malaria, Brucellosis, Hepatitis, Addiction, Kidney Infection, Liver Fluke, Syphilis, Amebiasis, Mumps, Influenza, Lead Poisoning, Cancer

14 A: Strep Infection, Spotted Fever, Enteric Fever, Rubella, Syphilis, Mononucleosis, Arboviral Fever, Typhus

09 A: (This is not certain since the fever has been for just a week.) Malaria, Hepatitis, Tuberculosis, HIV Infection, Brucellosis, Typhus, Cancer, Visceral Leishmaniasis, Leptospirosis

B-2³⁴: Arboviral Fever, Leptospirosis, Q Fever, Relapsing Fever, Spotted Fever, Syphilis

Patient Risk Factors:

Possible exposure to STD's.

Sorting the Differential:

Arboviral Fever is possible but you cannot treat that anyway, aside from giving supportive care, which you will do in any case. Leptospirosis is possible but her eyes are not red and she does not have severe muscle pains, just aching. Spotted Fever and Syphilis are both possible. The rash on her palms and soles should clinch this as probably Syphilis.

Similar Diseases:

Too many to list.

Take-Home Lessons:

This is a classical case of secondary Syphilis, with the fever and the long-lasting rash involving the palms and soles.

Disposition:

Give her an injection of benzathine penicillin. Tell her that she has a family disease so her husband should also come in for an injection.

³⁴ This differential is short and is of high priority because you can eliminate all the items where the patient lacks an essential symptom.

149 Hepatitis, Malaria, algid

Problem List:

Yellow eyes, loss of appetite, upper right abdominal pain, heavy upper left abdomen, fever/chills

Protocols and DD:

01 C: Malaria

09 A2: Hepatitis, Liver Failure, Visceral Leishmaniasis

23 D: Hepatitis, Amebiasis, Leptospirosis, Yellow Fever, Liver Fluke

40 A: Hepatitis, Amebiasis, Heart Failure

46 B1: Tropical Splenomegaly, Visceral Leishmaniasis, Malaria, Hydatid Disease, Cirrhosis

Patient Risk Factors:

Malarious area, large spleens common, Visceral Leishmaniasis possibly present.

Sorting the Differential:

Hepatitis is most probable but you should not be content with that.

There is enough evidence of Malaria, Amebiasis, and Visceral Leishmaniasis that you should keep these in the back of your mind.

Similar Diseases:

Algid Malaria

Take-Home Lessons:

THE MOST COMMON ERRONEOUS DIAGNOSIS IN FATAL SEVERE MALARIA IS HEPATITIS. DON'T FORGET IT.

Disposition:

Give him multivitamins; he'll need them since he isn't eating much. Having some medication from you will keep him from seeking and consuming liver-toxic ethnic medications. You must also treat him for Malaria.

150 Chicken Pox

Problem List:

Fever, Rash (blisters)

Protocols and DD:

01 B: Kidney Infection, Ear Infection

15 A: Chicken Pox; Monkey Pox

Patient Risk Factors:

Other children have had this sort of thing.

Sorting the Differential:

There is not much to sort. Chicken Pox explains the fever and rash both.

Similar Diseases:

Rickettsial Pox (under Spotted Fever); Herpes (but that causes pain)

Take-Home Lessons:

The childhood diseases that no longer occur in the West are very common in developing areas. You will see regular outbreaks of these conditions.

Disposition:

Cut the child's nails short, use symptomatic treatment for the itching, Warn the mother to come in early if he develops a localized skin infection. Acetaminophen is o.k. to use but not aspirin.