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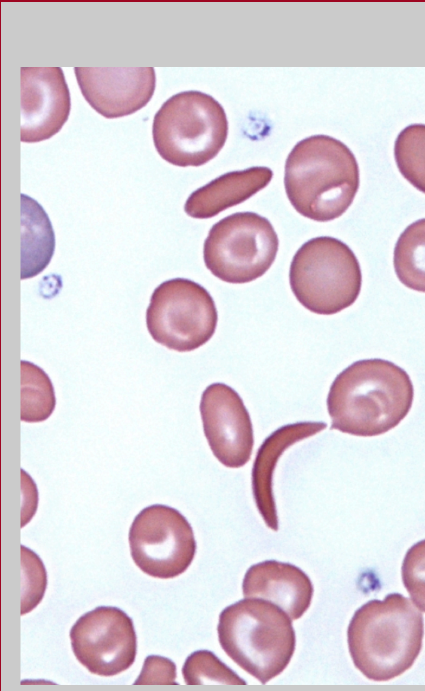
EM CASE OF THE MONTH

BROWARD HEALTH MEDICAL CENTER DEPARTMENT OF EMERGENCY MEDICINE



In patients with SCD, the RBC becomes deformed and forms a characteristic sickle shape causing several complications including vasocclusive pain crisis. The pain is caused by small vessel occlusions causing infarction of bone and soft tissues.

EM CASE OF THE MONTH

EM Case of the Month is a monthly "pop quiz" for ED staff. The goal is to educate all ED personnel by sharing common pearls and pitfalls involving the care of ED patients. We intend on providing better patient care through better education our our nurses and staff.

A True Sickle Cell Emergency

An 18 year ol male with a history of sickle cell disease presents with pain all over including his chest, back and joints. He admits to feeling increasingly short of breath over the past day. His vital signs are T 100.8 HR 120 BP 90/60 RR 28 88% on RA. His chest xray shows a new infiltrate. The ED physician informs you that this patient's diagnosis is the leading cause of death in sickle cell patients. What is the diagnosis?

A. Pneumonia.

B. Pulmonary Embolism

C. Acute aortic dissection

D. Pneumothroax

E. Acute Chest Syndrome

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Take Home Points

- Acute chest syndrome is the number one cause of death in sickle cell patients
- Acute chest is defined as a new infiltrate on chest X-ray PLUS one of the following: fever, cough, wheezing, tachypnea, or chest pain.
- Treatment includes O_2, pain meds, antibiotics, hypotonic IVF, and emergent call to Hem/Onc for possible exchange transfusion.
- Treat SCD patients with the dignity and respect they deserve

Acute Chest Syndrome

The correct answer is E. The acute chest syndrome is defined as a new infiltrate on chest x-ray with one other new sign or symptom: fever > 101.3 F, cough, wheezing, tachypnea, or chest pain. It is most common in the 2 -4 year old age group and incidence declines with age. **It is the leading cause of death in patients with SCD.** Acute chest syndrome has multiple potential causes but **pulmonary infection and/or thrombosis are thought to be the two main underlying etiologies**. Half of patients admitted with acute chest syndrome will be found to have an infectious pathogen—most commonly atypical agents such as *Chlamydia pneumoniae* or *Mycoplasma pneumonia*.

Treatment includes supportive care (O_2, analgesia, hydration), broad-spectrum antibiotics, bronchodilators, and exchange transfusion. Hypotonic fluid such as ½ normal saline is recommended facilitate free water passage into the sickling RBCs. **Exchange transfusion may be lifesaving in patients with severe acute chest syndrome**. An emergent consult to Hematology/Oncology is recommended.

Discussion:

We can see countless sickle cell patients per week present to the ED, typically with the same painful complaints. These patients can easily start to become routine and we as healthcare providers can easily start to label them as "drug-seekers" or "frequent flyers". We must remember that if we get careless in our care and become too routine in our therapy, we can fail to diagnose a life-threatening condition in SCD patients. Be sure to ask your SCD patients if they have chest pain, breathing issues, fever, or cough. If these symptoms are present, or the patient's vital signs reflect a possible acute chest syndrome, these patients should be triaged to a high level and brought back to the ED for prompt assessment and care.

Lastly, please display empathy for these patients. It is hurtful for the patient to hear his doctor or nurse say, "he's just drug seeking" or "oh no, he's back again". These patients are born with a very painful and chronic disease and we should treat them with respect and dignity. We would never call a hyperglycemic diabetic an "insulin-seeker" so we should not call our SCD patients who are in pain "drug seekers".

IF YOU HAVE A TOPIC YOU WOULD LIKE TO SEE DISCUSSED IN A FUTURE EDITION, PLEASE SEND IT TO DR. JASON MANSOUR AT JMANSOURMD@GMAIL.COM

"An investment in knowledge pays the best interest." –Benjamin Franklin