

EM CASE OF THE WEEK.

BROWARD HEALTH MEDICAL CENTER
DEPARTMENT OF EMERGENCY MEDICINE



Care Warriors

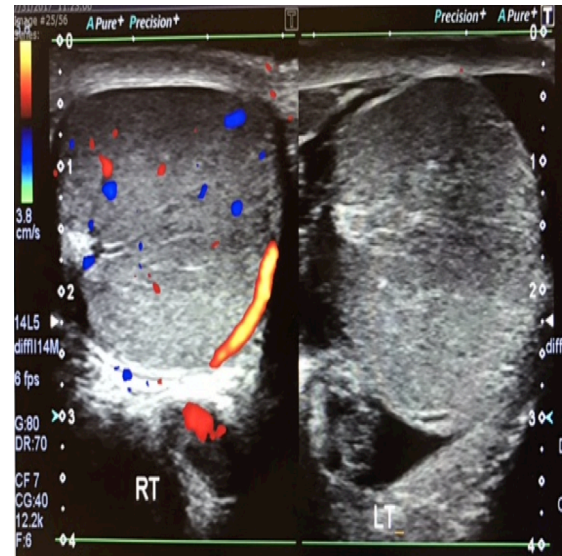
Author: Gopi Naik Editor: Dr. Rita Zeidan PGY1

| Vol 4 | Issue 7

Testicular Torsion

A 14-year-old male with no significant past medical history presents to the ED with left testicular swelling and constant pain for the past 8 hours. He notes previous resolved episodes on the right side consisting of swelling, but no pain. Per his aunt, he is up to date on his immunizations. Patient denies being sexually active or any blunt trauma. He denies abdominal pain, nausea and vomiting. Patient is afebrile and vital signs are within normal limits. On physical exam, he has swelling in his left testicle with no rashes or bruising. The remainder of the physical exam is unremarkable. Which of the following is the most appropriate answer in confirming the most likely diagnosis?

- A. Surgical Intervention
- B. A Color Doppler Ultrasound
- C. Manual Detorsion
- D. Urine Analysis and Urine Culture
- E. Nuclear Scan



Testicular torsion occurs when the testicle rotates, twisting the spermatic cord that brings blood to the scrotum. It presents generally with an abrupt onset of severe pain associated with nausea and vomiting.

The right testicle shows adequate blood flow, where as perfusion in the left testicle is virtually absent.

EM Case of the Week is a weekly "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 for our nurses and staff.

BROWARD HEALTH MEDICAL CENTER

Department of Emergency Medicine
1625 SE 3rd Avenue
Fort Lauderdale, FL 33316

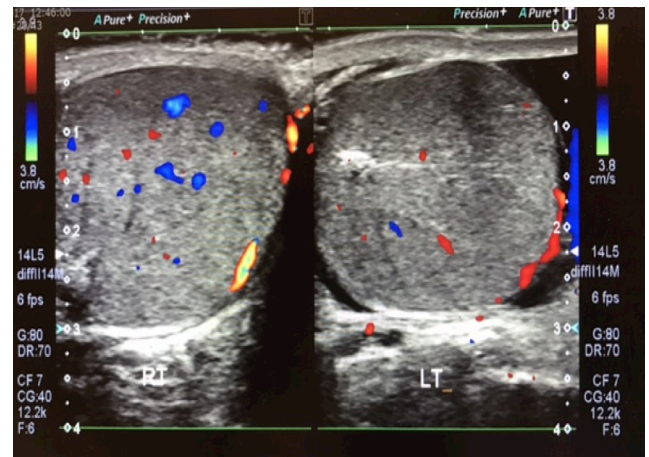
The correct answer is B. A Color Doppler ultrasound should be performed to diagnose and confirm a testicular torsion once a thorough history and physical exam are conducted.

Testicular torsion is one of the most serious pathophysiologies affecting the scrotum as it could cause the loss of a testicle. It is one of the most common causes of acute scrotal pain alongside torsion of the appendix testis and epididymitis. It can present at any age however it is frequent among adolescents with about 65% of cases presenting between ages 12-19.

Discussion

Torsion results when there is a lack of normal attachment of the testis to the tunica vaginalis through the gubernaculum testis. The most common abnormality associated with testicular torsion is the “Bell Clapper” deformity. It consists of the testis lying horizontally instead of vertically, with the tunica vaginalis extending up towards the spermatic cord so that the testis is suspended within the tunica vaginalis by spermatic cord. Thus, the testicle lacks normal vertical attachment to the tunica vaginalis and sits horizontally within the scrotum. At this point, if the fixation of the lower pole of the testis and tunica vaginalis is absent, the testis may twist on the spermatic cord. This will cause venous compression and swelling of the testicle ultimately leading to ischemia of the testicle.

Patients typically present with an abrupt onset of severe scrotal or testicular pain with nearly 90% of patients presenting with nausea and vomiting. Many awaken with the scrotal pain in the middle of the night or in the morning with reporting incidents of previous episodes. On physical exam, the scrotum may be swollen, erythematous and indurated with the affecting testis tender, edematous and higher than the opposite testis due to the shortened cord from twisting. Cremasteric reflex is often absent.



The diagnosis of a testicular torsion is made clinically. When there is a high suspicion, an immediate surgical consult should be placed to determine course of action. The role of the Doppler ultrasound of the scrotum is implicated when imaging does not delay treatment. The Doppler ultrasound will illustrate decreased testicular perfusion or twisting of the spermatic cord, which is consistent with a torsion.

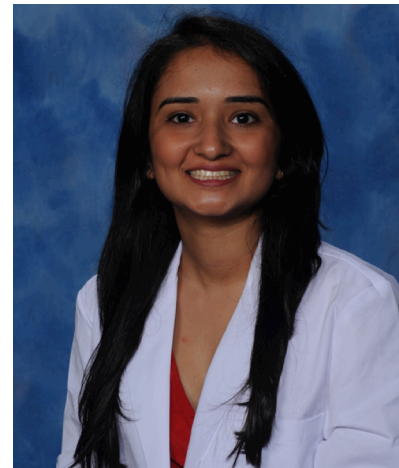
Management

Regardless how the diagnosis of a testicular torsion is made – surgical consultation is crucial. The treatment for a torsed testicle that is viable involves detorsion and fixation of both testes. If the testicle is not viable, orchiectomy is performed. The viability is determined based on the extent and duration of the torsion. The contralateral hemiscrotum is explored during surgery too as the Bell Clapper deformity is typically bilateral. Exploration enables fixation of the contralateral testis to avert future torsions. The prognosis of a torsed testicle depends on the duration and degree of torsion. Typical rates of viability according to duration of torsion are the following:

1. Detorsion within 4-6 hours: 100% viability
2. Detorsion after 12 hours: 20% viability
3. Detorsion after 24 hours: 0% viability

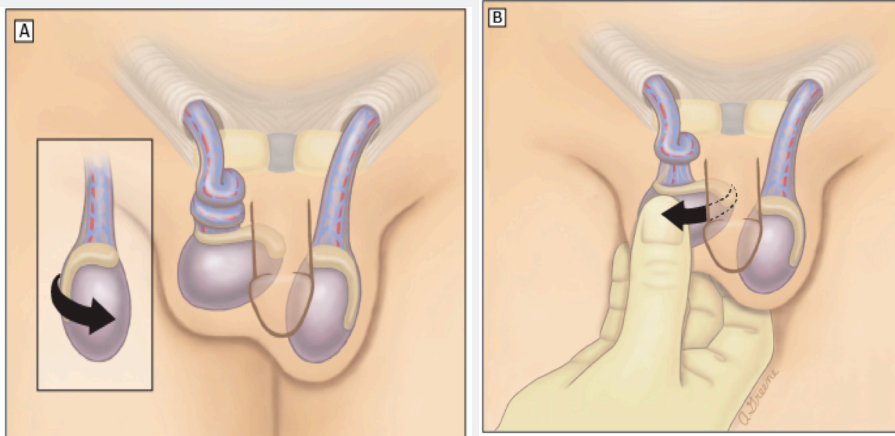
For a list of educational lectures, grand rounds, workshops, and didactics please visit BrowardER.com and **click** on the **“Conference”** link.

All are welcome to attend!



ABOUT THE AUTHOR

This month's case was written by Gopi Naik, Gopi is a 4th year medical student from NSU-COM. She did her emergency medicine rotation at BHMC in August 2017. Gopi plans on pursuing a career in General Surgery after graduation.



Prior to surgery, an attempt at manual detorsion should be executed to help restore blood flow and keep the testicle viable, while patient waits for surgical intervention. The maneuver consists of rotating the testicle within the scrotum outward towards the thigh in a 360 degree motion once or twice. Relief of pain suggests the lowering of the testis in the scrotum and a post-maneuver Doppler will show adequate blood flow.

Take Home Points

- There are many causes of acute scrotal or testicular pain including torsion of the appendage, acute epididymitis and testicular torsion – which is one of the most emergent acute process that requires immediate surgical consult
- Testicular torsion usually presents as abrupt onset of severe pain that may be associated with nausea, vomiting and abdominal pain. Cremasteric reflex is typically absent
- In cases where imaging does not interfere with treatment plans, Doppler ultrasound is used to determine whether blood flow is present and can show the twisting of the spermatic cord
- Prior to surgery, manual detorsion is recommended to help restore blood flow and keep a testicle viable
- The definitive treatment for a testicular torsion that remains viable involves exploration and fixation of both testes to prevent future torsions. Orchiectomy is performed if testicle is not viable
- A testicular torsion is an emergency and timely diagnosis and treatment correlates with the viability of the testicle

REFERENCES

1. Brenner, JS. Evaluation of scrotal pain or swelling in children and adolescents. In: UpToDate. Post, TW (Ed), UpToDate, Waltham, MA. (Accessed August 10, 2017)
2. Ogunyemi, Oreoluwa. Medscape. Testicular Torsion. 2017. <https://emedicine.medscape.com/article/2036003-overview>
3. Pruthi, Sandhya. MayoClinic. Testicular Torsion. 2017. <https://www.mayoclinic.org/diseases-conditions/testicular-torsion/basics/definition/con-20033130>
4. Sharp V, Testicular Torsion: Diagnosis, Evaluation and Management. *American Family Physician* [Internet]. 2013 Dec 5 [cited 2017, August 9];88(12):835-840. Available from: www.aafp.org/afp/2013/1215/p835.html