

Emergency Medicine Journal Club - Block 1
 July 12, 2016
 Dr. Sauder

Clinical Question:

What algorithm would be most accurate for diagnosis of ovarian torsion in women (>18) or girls (<18)? Is there a difference in the algorithms accounting for age?

Clinical Vignette:

20 yo F presents with aching, sharp pain in LLQ that has been intermittent over past 2 days and is severe at times and at times moderate. KUB shows no stool in the colon and there is no hematuria or hx of renal calculi. What do you do?

Clinical Vignette:

14 yo F presents with RLQ pain that is sharp, severe and had sudden onset 2 hours prior to presentation. Based on the sudden nature, as well as hx appendectomy you are at a loss as to the preferred, accurate imaging to evaluate for ovarian torsion in this age group.

Complete the PICO with each article:

	Swenson	Bronstein
P (population)	Adult Female (>18)	Pediatric Female (<18)
I (intervention)	Imaging (CT/US) in evaluation for OT (case control of radiology reads of known ovarian torsions)	Imaging (CT/US) in evaluation for OT (meta-analysis of literature available)
C (comparison)	Radiologic Read of US v CT for torsion with 20 torsions and 20 controls.	B-mode US v Doppler US v CT based on literature review
O (outcome)	Neither imaging as perfect test for ovarian torsion, but CT=US. This paper focused on radiologic evaluation though, not clinical outcomes of undifferentiated complaints leading to diagnosis of torsion.	B-mode is most sensitive and specific for pediatric OT, CT is not recommended.

Background Articles:

Fertil Steril. 2010 Apr;93(6):2012-5. doi: 10.1016/j.fertnstert.2008.12.022. Epub 2009 Jan 20.

Emergency laparoscopy for suspected ovarian torsion: are we too hasty to operate?

[Bar-On S1](#), [Mashiach R](#), [Stockheim D](#), [Soriano D](#), [Goldenberg M](#), [Schiff E](#), [Seidman DS](#).

Emerg Radiol. 2014 Apr;21(2):179-87. doi: 10.1007/s10140-013-1163-3.

Ovarian and tubal torsion: imaging findings on US, CT, and MRI.

[Lourenco AP](#), [Swenson D](#), [Tubbs RJ](#), [Lazarus E](#).

Journal Club Articles:

Eur J Pediatr Surg. 2015 Feb;25(1):82-6. doi: 10.1055/s-0034-1387946. Epub 2014 Aug 30.

A meta-analysis of B-mode ultrasound, Doppler ultrasound, and computed tomography to diagnose pediatric ovarian torsion.

[Bronstein ME1](#), [Pandya S1](#), [Snyder CW2](#), [Shi Q3](#), [Muensterer OJ1](#).

Eur J Radiol. 2014 Apr;83(4):733-8. doi: 10.1016/j.ejrad.2014.01.001. Epub 2014 Jan 8.

Ovarian torsion: Case-control study comparing the sensitivity and specificity of ultrasonography and computed tomography for diagnosis in the emergency department.

[Swenson DW1](#), [Lourenco AP2](#), [Beaudoin FL3](#), [Grand DJ2](#), [Killelea AG4](#), [McGregor AJ3](#).

Literature Review/Journal Club Discussion:

I used Pubmed, using WSU Library Access with search fields including “ovarian torsion” and “imaging” and “Ultrasound” and “CT”. Following this review, I selected a variety of articles for review, including a radiology-based review article as well as a gynecologic-focused post-surgical analysis paper. To answer my clinical questions, I found two specific papers, which were included in the journal club packet with the focus being on analyzing the data with hopes of clarifying the PICO questions prompted by the clinical scenarios generated. The residents in attendance at journal club were divided into two clinical groups, with the focus of the groups being generating a clinical algorithm for evaluation of ovarian torsion with type of imaging examined in the context of age-related sensitivity, specificity and risk/benefit analysis of ionizing radiation.

After considerable debate and discussion during journal club, the two focus articles were used to create a rough framework for considering ovarian torsion work up.

The readers of the Swenson article decided that their initial work up in an adult female might start with a CT abdomen and pelvis with IV contrast, with continued high index of suspicion, US and gynecologic consult as needed as the sensitivity of imaging does not have a perfect test for torsion at this time.

The readers of the Bronstein article deduced that in pediatrics, an US might be the more useful imaging test initially, with further work up as needed following.

The punchline of the journal club was that if your index of suspicion for torsion is high, the patient in question would likely benefit from close gynecologic follow up and that there is not enough evidence at this time to suggest a perfect imaging modality for this diagnosis.