

# Tubo-Ovarian Abscess with Pyosalpinx: An Overview and Case Study

## Introduction to Tubo-Ovarian Abscess with Pyosalpinx

Tubo-Ovarian Abscesses (TOA) along with Pyosalpinx are both components of pelvic inflammatory diseases (PID), but are very different diseases. TOA occurs in 18%-34% of all PID cases, known to be caused by anaerobic bacteria, genital malignancy, in vitro fertilization and perforated appendicitis.<sup>1</sup> Pyosalpinx on the other hand is caused by sexually transmitted infections (STIs) and some bacteria, as well as PID and is characterized by the collection of fluid in the fallopian tubes. Pyosalpinx could be classified as a component of TOA, and can cause a variety of complications, the most extreme complications being infertility and secondary peritonitis if the pyosalpinx becomes ruptured.

## TOA and Pyosalpinx Together

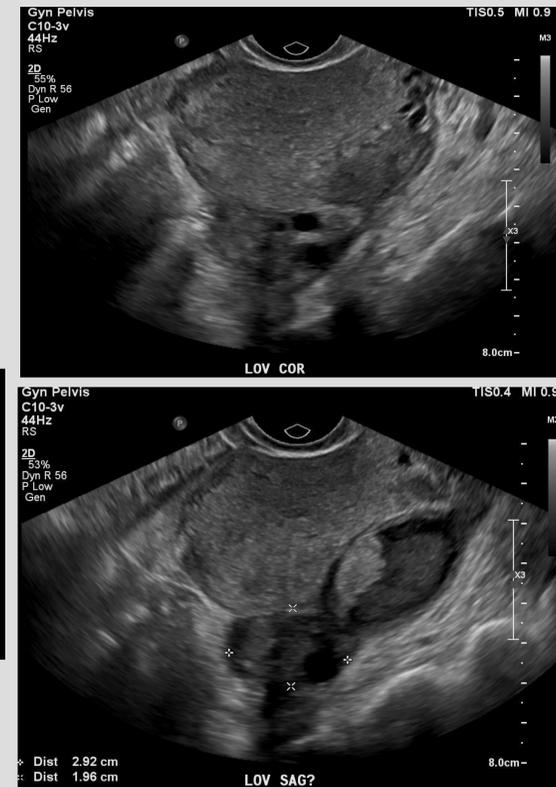
Pyosalpinx usually occurs before TOA sets in, and causes a variety of complications including infertility, ectopic pregnancies, and secondary peritonitis can occur when the pyosalpinx becomes ruptured.<sup>2</sup> The most common symptoms that occur with Pyosalpinx are pelvic pain and vaginal discharge, and both diseases are best seen using ultrasound. TOA occurs when the infection in the pelvis worsens, it affects the fallopian tubes and ovaries by fusing and therefore distorting their anatomy and impairing their function. Once these fuse together it is then called the tubo-ovarian complex.<sup>5</sup> Other symptoms can include irregular vaginal bleeding, urinary symptoms, nausea and vomiting, and proctitis.

## Imaging

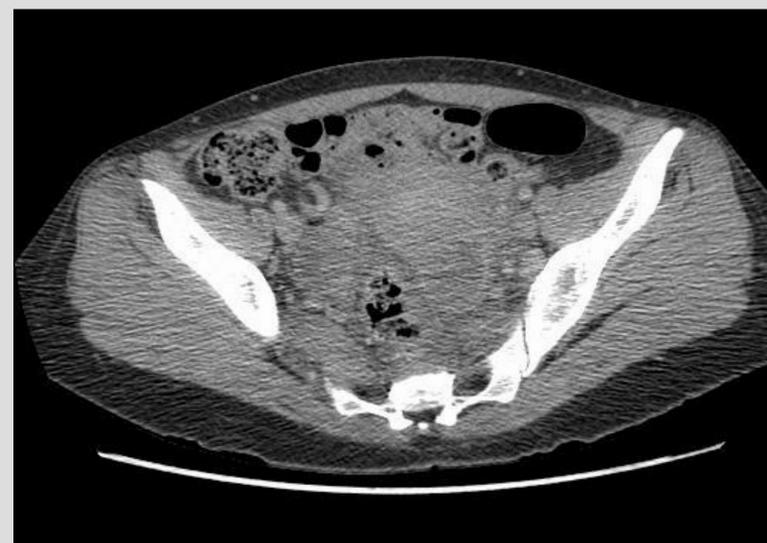
Sonographically, pyosalpinx shows distention of the fallopian tubes with wall thickening and hyperenhancement, whereas TOA presents itself with possible cystic and complex neo-formation in the pelvic compartment.<sup>3</sup> TOAs early diagnosis with imaging is so important because of the severe outcomes it can present, the most severe of which is mortality.<sup>4</sup> Both of the ultrasound images to the right, figure 1 and 2 demonstrate pyosalpinx. These are demonstrated transabdominally and transvaginally. Figure 2 shows a possible ovary in transvaginal ultrasound. The computed tomography (CT) imaging is shown in figure 3 to the right, and demonstrates Tubo-Ovarian Abscess.



**Figure #1**  
**Abdominal**  
**ultrasound.<sup>7</sup>**



**Figure #2**  
**Transvaginal**  
**ultrasound.<sup>7</sup>**



**Figure #3 CT**  
**image.<sup>7</sup>**

## Case Study

A female patient in her early 30's present to the emergency room complained of pelvic pain and vaginal discharge for the past 2 days. The patient showed with an increased white blood cell count, and was tested with transabdominal and transvaginal ultrasound and CT. The radiology report came back stating that the sonogram images demonstrate pyosalpinx, (see Figures 1 and 2) and the CT dictation states TOA (see Figure 3). The patient came back a few days later and had a CT guided abscess drain, and 10 mL of green fluid was aspirated.<sup>6</sup>

## Conclusion

Pyosalpinx and Tubo-Ovarian Abscesses often occur together when it comes to PID, but there are differences between the two. Studies showing that TOA is the next step after pyosalpinx, and treatment for the both can be as simple as antibiotics if caught early enough with little reoccurrence. Diagnosing TOA as early as possible with imaging is especially useful because of the severe outcomes it can present.

## References

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