

## Imaging Sciences Interesting Cases

### CASE 389

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**CLINICAL PRESENTATION:** Patient is a 29-year-old female with abdominal pain.

**IMAGING FINDINGS:** Ultrasound revealed markedly dilated tortuous right fallopian tube containing fluid with debris (**Figs. 1&2**). Ultrasound also showed string on bead sign (**Fig. 3**). Dilated tube also seen on CT (**Fig. 4**) and hysterosalpingogram (**Fig. 5**).



Figure 1.



Figure 2.



Figure 3.

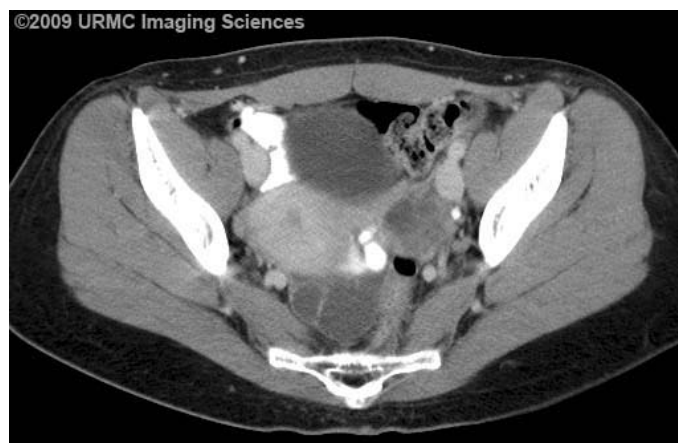
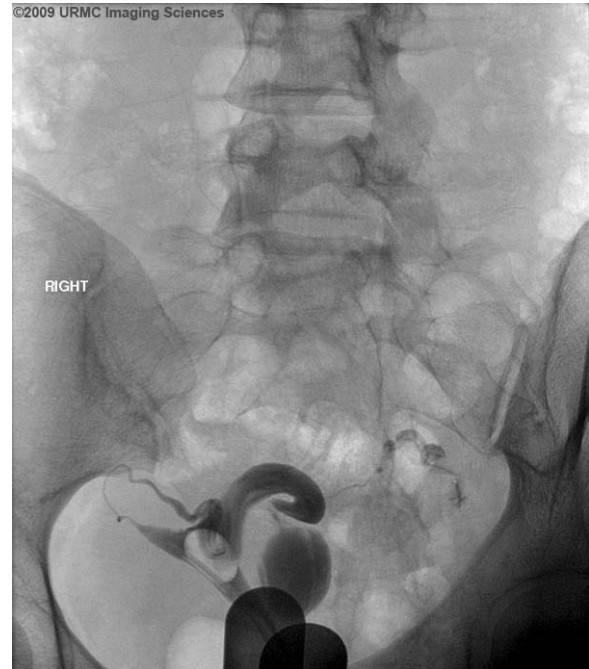


Figure 4.



**Figure 5.**

**DIAGNOSIS: Hydrosalpinx**

**DISCUSSION:** Salpingitis is the most important cause for obliteration of the fimbriated end of the tube, which leads to hydrosalpinx. Other etiologies include fallopian tube tumor, endometriosis and adhesion from prior surgery.

Transvaginal sonography recognizes the dilated fluid-filled fallopian tube by its tubular shape, somewhat folded configuration, and well-defined echogenic walls. The dilated tube can be distinguished from a fluid-filled bowel loop by the lack of peristalsis. Low level internal echos may be seen within the fluid-filled tube as a result of pus (pyosalpinx), and a fluid-pus level may occasionally be seen. Anechoic fluid within the tube indicates hydrosalpinx. A thickened tubal wall (5mm or more) is indicative of acute disease. Three appearances of tubal wall structure can be seen: (a) 'cogwheel' sign, defined as an anechoic cogwheel-shaped stricture visible in the cross-section of the tube with thick walls, which is seen mainly in acute disease; (b) 'beads on a string' sign defined as hyperechoic mural nodule measuring about 2-3mm and seen on the cross-section of the the fluid filled distended tube. This is due to degenerated and flattened endosalpingeal fold remnants and is seen only in chronic disease; and (c) incomplete septa, seen frequently in both acute and chronic disease.

CT shows serpentine structures with internal fluid and enhancing walls. It can be separated from bowel by absence of intraluminal enteric contrast.

Dilated fallopian tube can be identified by hysterosalpingogram and MRI.

**REFERENCES:**

1. Patel MD, Acord DL, Young SW. Likelihood ratio of sonographic findings in discriminating hydrosalpinx from other adnexal masses. *AJR Am J Roentgenol.* 2006 Apr;186(4):1033-8. PMID: 16554575 [PubMed]