

Case 1341

Pelvic inflammatory disease

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Section: Genital (Female) Imaging

Published: 2003, Jun. 24

Patient: 32 year(s), female

Clinical Summary

The patient presented with abdominal pain and weight loss of 3 weeks' duration. Two weeks previously her Intra-Uterine Device (IUD) was removed because it was displaced. The routine pelvic sonography showed a left adnexal complex cystic mass.

Clinical History and Imaging Procedures

The patient, gravida III, para I, presented with a low, stabbing abdominal pain and weight loss for 3 weeks' duration. No vaginal discharge was reported. There was no significant past medical history apart from the removal 2 weeks previously of a caudally displaced intrauterine device (IUD). At this time, a routine pelvic sonography showed a left adnexal complex cystic mass, a CT scan was performed and the patient was referred with the presupposed diagnosis of a tumoral lesion.

Physical examination revealed a left adnexal mass and a tender subcutaneous right abdominal wall mass with acute inflammatory signs. Laboratory parameters were normal, with tumoral markers within normal limits. Imaging work-up of the patient consisted of a MRI examination, which revealed a complex cystic mass of the left adnexa, compatible with oophoropyosalpingitis; pelvic peritonitis; and a right abdominal subcutaneous collection/abscess. Percutaneous drainage of the abdominal wall abscess was performed. Culture was positive for *Bacteroides fragilis*, which allowed adequate intravenous antibiotic coverage. After a few days the patient underwent a left adnexectomy, a right salpingoplasty and had an omental nodule removed. During surgery the greater omentum was found to be adherent to the anterior abdominal wall that had on the right a spigelian hernia through which the infection spread between the left adnexa and the abdominal wall. The pathologic diagnosis was chronic oophorosalingitis and periadnexal peritonitis and the omental nodule was an abscess.

Discussion

Exploring the potential relations between contraception, genital-tract infections, and infertility is as complex as it is important. Difficulties include variable definitions, fuzzy diagnoses, and changing pathogens. Concern about the risk of upper genital tract infection often limits the use of the IUD, a highly effective contraceptive. IUDs have long been believed to cause pelvic inflammatory disease (PID), particularly actinomycotic disease, and subsequent tubal infertility. Recent studies suggest that the previous use of a copper IUD is not associated with an increased risk of tubal occlusion, even among nulligravid women, whereas infection with *C. trachomatis* is. Good evidence suggests that the increase in the risk of PID associated with IUD use is related only to the process of inserting/withdrawing the device, by contamination of the endometrial cavity at that time, and not to the prolonged use. Tubo-ovarian abscesses are seen on CT scans as thick-walled, complex adnexal masses with centers of low-attenuation septations.

On MRI examination, tubo-ovarian abscesses have a serpiginous tubular configuration and tend to be heterogeneous and ill-defined on T2-weighted images. A pelvic abscess appears as a predominantly low-signal-intensity mass on T1-weighted images, with a variable increase in signal intensity on T2-weighted images. Adjacent organs may be displaced or compressed by the mass, and surrounding inflammation may be seen as ill-defined areas of increased signal intensity within the muscles on T2-weighted images. In comparison with CT, MR examination better delineates the extent of inflammatory changes in the surrounding tissues.

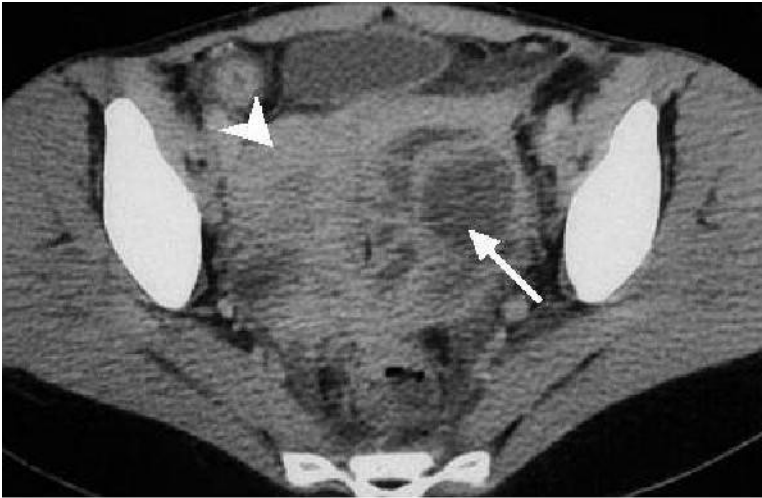
The differential diagnosis from adnexal neoplasm is necessary because the predominant signs are related to the inflammatory masses and severe adhesions. The unusual association with an abdominal wall abscess in our case was explained during surgery by the presence of a spigelian hernia, thus making the purposed diagnosis of oophorosalpingitis obvious.

Final Diagnosis

Pelvic inflammatory disease

Figures

Figure 1

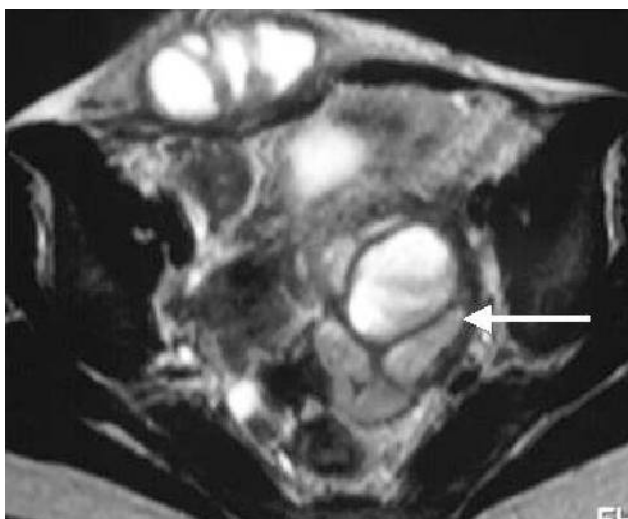


A left complex ill-defined adnexal mass (arrow), with cystic areas is noted, compressing the uterus to the right (arrowhead). The pelvic fat is densified.

Figure 2



Right subcutaneous abdominal wall collection, with high signal intensity, oval in shape, with a thick hypointense fibrous wall (white arrow). Some linear hypointense strands are visualized in the collection lumen (black arrow).



Collection in the abdominal wall and a left tubular slightly heterogeneous hyperintense mass, corresponding to pus in the left fallopian tube (arrow).



In an inferior plan of section, the uterine corpus is seen deviated to the right (arrow) and compressed by the dilated left fallopian tube (arrowhead). Some follicular cysts are also seen in the right ovary (small arrowheads).

Figure 3



The extension of the abdominal wall collection is well appreciated (arrows).



We can see, in a plan passing through the left adnexa, the characterization of oophorosalpingitis (arrow).

Figure 4



Marked peripheral enhancement of the abdominal wall collection (arrow).



In this image we can see enhancement of the internal linear strands of the abdominal wall collection (arrows). The left adnexa mass demonstrates parietal enhancement in a linear manner (arrowheads). Furthermore, the pelvic soft tissues also shows marked enhancement by the inflammatory reaction.



At a lower level the uterus body is also intensely enhanced (arrow).

References

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Citation

Couceiro C, Vasconcelos A, Cunha TM (2003, Jun. 24)

Pelvic inflammatory disease {Online}

URL: <http://www.eurorad.org/case.php?id=1341>