Diagnostic Images

Pelvic abscess – the ubiquitous staphylococcus

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The patient

A female aged 17 had an appendicectomy followed by resection of gangrenous bowel 3 months previous to her present admission. She complained of lower abdominal pain for 6 weeks and was found to have a tender mass on rectal examination. The white cell count was $16.5 \times 10^9/l$. Microscopic haematuria was noted. A computed tomographic scan was performed.

Figure 1 (a) A large low attenuation area is shown at the pouch of Douglas (D) with the uterus (U) anteriorly and the sigmoid colon (sm) posteriorly. The top of the bladder (B) is visible behind the right rectus that has an irregular

margin due to the previous surgery. (b) In the adjacent section the region of the pouch of Douglas (D) appears distended in keeping with a fluid collection. The bladder (B) is also more obvious and the left ovary is visible.

Figure 2 After enhancement with intravenous contrast medium the uterus (U) and left periovarian tissue is well shown and the fluid collection in the pouch of Douglas (D) is accentuated by contrast enhancement of the surrounding inflamed tissue especially on the right around the ureter (arrow). (b) The section below shows the inflammatory rim around the fluid collection more clearly and the slightly dilated right ureter surrounded by enhancing tissue (arrow). (B-bladder).

Figure 3 (a) and (b) The spleen (Sp) moderately enlarged in keeping with a non-specific reaction to infection (L – liver, St – stomach, A – aorta, I – IVC).

Comment

Fluid collections in the abdomen are now readily detected by sonography and computed tomography (CT). On CT fluid lesions are usually of low attenuation ranging from 1–15 Hounsfield Units. Exceptions include recent haemorrhage and fluids with high solute or protein content. Most abscesses are of low attenuation resembling other fluid collections on the plain scan.

However after intravenous contrast enhancement, abscesses not only become more obvious like other fluid collections, but also show an obvious enhancing rim due to the limiting inflammatory margin. This feature is particularly well shown in pelvic abscesses, appendiceal abscesses and thoracic empyema.

The relationship of the right ureter to the inflammatory rim of the abscess would certainly account for the microscopic haematuria due to acute secondary ureteritis and the moderate splenomegaly resulting from chronic pelvic infection.

Drainage of the abscess via the rectum was curative and shown to be due surprisingly to *Staphylococcus aureus*.

References

- Bydder, G.M. & Kreel, L. Attenuation values of fluid collections within the abdomen. *Comp Assist Tomography* 1980, **4**: 145–150.
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