Diagnostic Images

Pathognomonic pelvic cysts

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The patient

A 36 year old woman complained of repeated attacks of a dull ache in the left iliac fossa. Examination revealed a mass in the left iliac fossa extending into the pelvis. An immobile mass was felt on pelvic examination.

Figure 1 Pelvic film of urogram with contrast medium in the bladder, markedly compressed from above, and the ureters displaced laterally. Small irregular calcifications (straight arrows) are present and low density areas (curved arrows), suggesting lipoid material.

Figure 2 Full length urogram (IVU) showing soft tissue mass (arrows) slight ureteric distension and rounding of calices. Water soluble contrast medium also present in caecum and ascending colon because the IVU was done after the computed tomographic (CT) examination.

Figure 3 On sonography there is a well-defined ovoid hypoechoic mass (arrow) with some through transmission indicating a cystic lesion.

Figure 4a CT confirms the benign nature of the lesion with a thin well defined wall, partial loculation and very low attenuation contents. There is also a small focus of calcification at the margin (arrow). (U – uterus, B – bladder).

Figure 4b Enlarged view of the cyst.

Figure 5 Section through the base of the cyst compressing the recto-sigmoid posteriorly. The cyst appears to be of soft tissue density because the scan section passes through the capsule of the cyst. (U – ureters, B – bladder, rs – recto-sigmoid).

Figure 6 In addition to the biloculated cyst with spots of calcification there is a much smaller cyst in the right iliopsoas angle with a well defined capsule and has a much lower internal attenuation (arrow) (il – ilacus muscle, ps – psoas, B – bladder).

Comment

The dermoid cyst or benign teratoma derived from totipotent cells has a skin lining, contains hair and is filled with sebaceous cheesy secretions producing the very low attenuation on CT. While lipomas also have very low attenuation, calcification is very uncommon and formed structures such as teeth do not occur. Usually lipomas are hyperechoic on sonography, whereas dermoid cysts are anechoic and have through transmission.

These tumours tend to occur in young women and have a propensity to undergo torsion but are almost invariably benign. Malignant transformation occurs in <1%. Besides the calcifications, teeth and hair, these cysts may also contain thyroid tissue, the so-called ovarian struma. Thus a well defined cyst with fat density and areas of calcification or actual teeth is pathognomonic of a dermoid cyst.

The smaller rounded low attenuation mass in the right iliopsoas angle has the appearances on CT that would do for either a lipoma or dermoid. It was in fact a separate second dermoid.

References

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2. Robbins, S.L. & Cotran, R.S. *Pathological Basis of Disease*. W.B. Saunders Co., Philadelphia, London, Toronto, 1979, pp. 1286–1288.