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Renal abscess in infancy

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Renal abscess is a rare occurrence in infancy. Its differentiation from an infected renal cyst may be difficult, especially if a perinephric abscess develops. This report illustrates a hitherto unrecorded unusual presentation of renal abscess as a tumour arising from the left lumbocostal region in an infant.

Renal abscess may be caused by haematogenous spread of infection, local pyelonephritis, renal calculi or underlying obstructive renal disease.

During the last 25 years 23 cases of renal abscess in childhood have been reported in the literature [1, 2, 3, 4, 7, 8, 9, 10, 11]. The patients' age ranged from 13 months to 15 years. Among them there was only one infant and that patient had in addition a congenital nephrotic syndrome. The case to be described probably represents the second infant with a renal abscess.

Report of a Case

A five months old female infant presented with septicaemia and a protuberant mass in the left lumbocostal region which had started suddenly, two days prior to her admission. Two months earlier she had had pyuria and E. coli bacteriuria. At admission the fairly thin infant was in no apparent distress. In the left abdomen there was a smooth, slightly movable, easily palpable mass (Fig 1, hatched area) and in the left costo-lumbal region a well noticeable protuberance measuring $5 \times 3 \times 1.5$ cm. (Fig. 1, arrow). The overlying skin was not discoloured and showed no inflammatory signs and there was no tenderness or fluctuation. The white blood cell count was 40 000. Erythrocyte sedimentation rate was 100 mm/h. The urinary sediment contained 30–40 white cells but no erythrocytes. There was no pyuria on admission. Urine bacteriology revealed haemolytic *Staphylococcus aureus*. Plain radiographs of the abdomen detected a soft tissue mass displacing the bowel medially. Intravenous pyelography showed a normal right kidney. On the left side the X-ray was suggestive of a tumour arising from the middle part of the kidney. The upper and lower calyces were deformed and displaced cranially and caudally, the middle calyx was not visible (Fig. 2). Thus we had to differentiate between a rapidly growing nephroblastoma and a renal abscess.

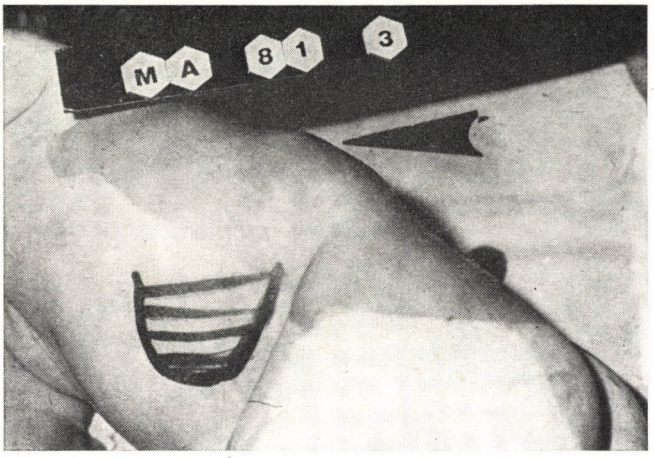

FIG. 1. Mass in the left abdomen (hatched area) and protuberance in the left costo-lumbal region (arrow)

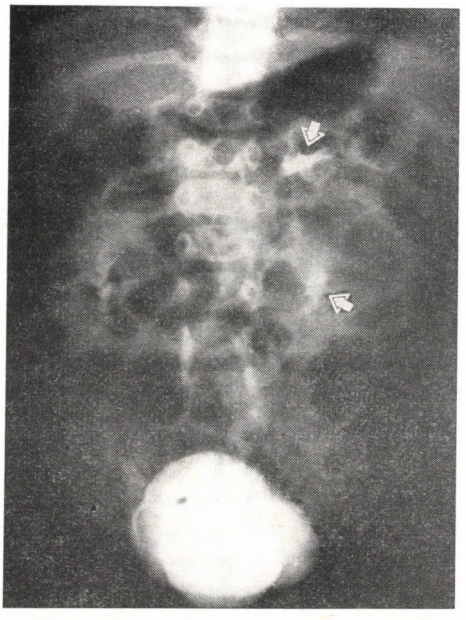

FIG. 2. Intravenous pyelogram on admission: the upper and lower calyces of the left kidney are deformed and displaced cranially and caudally (arrows), the middle calyx is not visible

Under general anaesthesia a needle biopsy was carried out through the lumbocostal mass. From a depth of about 2 cm, thick pus was obtained. An incision was then made at the site of the puncture and about 150 ml of pus was drained. The surface of the kidney could be felt and the tip of the finger could be inserted into a cavity in the renal substance. This

space was drained and from the cultured pus E. coli was obtained. The patient was started on a broad spectrum antibiotic. Intraoperative diagnosis was that of a renal abscess perforating the renal parenchyma and capsule, and appearing as a tumour in the left costolumbal region.

The patient made an uneventful recovery. Intravenous pyelography 2 months and 18 months later revealed an essentially normal collecting system in the left kidney (Fig. 3). The patient is now 2 years old, develops well and seems to be entirely healthy.

Discussion

Classically, a renal abscess develops 1–8 weeks following a primary skin, respiratory, dental, tonsillar or urinary tract infection [4]. In our case, the previous bacteriuria, pyuria and fever, which had changed after drainage of the abscess, may be regarded as pointing to a urinary infection. There was no sign of a preceding skin lesion which would have explained the staphylococcal finding.

It has been estimated that only one sixth of the cases of renal abscess is diagnosed [4]. One of the causes why they escape diagnosis is that the antibiotics may modify the typical clinical picture and prevent or delay the progression of a renal abscess to a perinephric abscess.

In our patient not only the early age of presentation was unusual but also the appearance of a tumour in the left lumbocostal region, as a hitherto undocumented complication of a renal abscess. In differential

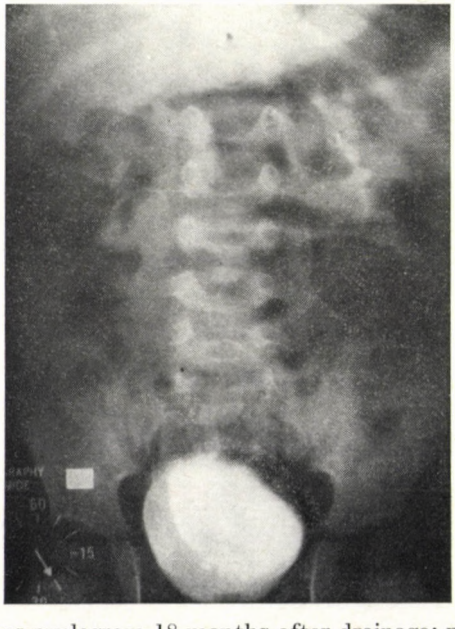

Fig. 3. Intravenous pyelogram 18 months after drainage: normal left kidney

diagnosis, perforation of a suppurating solitary renal cyst should be considered [5].

The treatment of choice of a renal abscess is exploration and drainage. In our case early drainage resulted in rapid recovery which then made a further exploration unnecessary. Recently, Finn et al. [6] have reported on the successful percutaneous management of renal abscesses in adults which supports the non-invasive approach applied by us.

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