Unusual presentation of more common disease/injury

A rare and unusual presentation of urological infection on a patient on steroids

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Summary

We report the rare case of adult lobar nephronia in a 49-year-old female, on long-term steroids with no prior urological or transplant history. More frequently reported in paediatric literature, adult lobar nephronia (focal pyelonephritis) is an unusual radiological finding sometimes preceding the development of renal abscess. We advocate that treatment should be a prolonged course of antibiotics and close follow-up.

BACKGROUND

The case is an unusual presentation of urological infection, and has not been encountered by the urology department in recent times. Mainly commented on in the literature on paediatric cases, our patient did not share any of the risk factors found in adult patients. We believe that there should be greater awareness of this pathological state because of the risk of abscess development and that prolonged antibiotics are necessary.

CASE PRESENTATION

A 49-year-old lady presented to the on-call surgical team with left iliac fossa pain (LIF), high-grade fever and vomiting. Her medical history included treatment for a pituitary adenoma for which she was on daily hydrocortisone. She had no other urinary symptoms and had no prior urological history. Clinical examination revealed a high-grade fever, rapid pulse and low blood pressure. Severe tenderness was elicited in the LIF. Blood tests revealed a raised white cell count of 14.8, with normal renal function. Urine dipstick was positive for nitrites and leucocytes and a sample was sent for culture. A sample of blood was also sent for culture. Fluid resuscitation was started immediately and treatment for presumed diverticulitis was initiated with antibiotics (intravenous coamoxiclav). Urine cultures subsequently grew *Escherichia Coli*, but blood cultures were negative.

Contrast CT demonstrated a rarely reported radiological phenomenon of lobar nephronia in the right kidney (figure 1). There was no diverticulitis.

The specialist urological team became involved in her care and after discussion with microbiology, gentamicin was included in her antibiotic treatment and her steroid dose was doubled on endocrinology advice. Rapid clinical improvement was seen over 48 hs and she was discharged home after a few days on a course of culture-sensitive trimethoprim with an outpatient clinic for review.

DISCUSSION

Lobar nephronia is an unusual type of renal tract infection. First described by Rosenfield in 1979¹ pathologically

it is a focal area of infection without tissue liquefaction. It is commonly associated with *E coli* infection.² It has been thought to be a disease state halfway between tissue inflammation and abscess formation, but there is some debate on this.³

Published case reports and series have concentrated mainly on paediatric cases. In adults, there are a few cases reported. Those reported include patients who are grossly immunologically compromised through HIV and hepatitis C⁴ or with renal transplant—patients.^{5 6} In our patient, none of the prescribed risk factors were present and we would suggest that long-term steroid therapy should also be considered as one.

In children, under-treatment of such cases has led to renal abscess formation. It has been reported that resolution of nephronia often leads to renal scarring irrespective of antibiotic course.⁷ No studies have been performed on adult patients. Radiologically, lobar nephronia can be confused with malignancy if acute symptoms are overlooked.

Figure 1 Radiological evidence of lobar nephronia in the right kidney on contrast CT.

We would advocate that in patients where there is a clear reason to be immunologically compromised, renal CT offers the best chance of diagnosis and radiologically it can otherwise be very difficult to exclude malignancy. Confirmed cases of lobar nephronia require prolonged courses of antibiotics and are tailored to the patient's microbiology to prevent the formation of a renal abscess. We would also advocate close follow-up to assess the effectiveness of treatment—rescan, usually with ultrasound in 4–6 weeks to ensure resolution.

Learning points

- ▶ Lobar nephronia is an unusual condition seen in adult patients and is normally associated with chronic immunodeficiency.
- ▶ It may develop into renal abscess and should be treated aggressively with intravenous antibiotics.
- ▶ We also advocate a follow-up of such patients to ensure that abscess has not developed.

Competing interests None.

Patient consent Obtained.

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