

## Hepatic Abscess Originating from Renal Suppurative Collection

Sir,

Simultaneous presence of the abscess in both kidney and liver at the same adult patient, caused by different microorganisms and sometimes with very complex pathogenic mechanisms are often described in exceptional reports.<sup>1,2</sup> This letter describes a very rare case of the renal abscess propagation to the liver, caused by the same *bacterium*, with anatomical communication between both suppurations, and absence of involvement of other organs.

A 40 years old male was admitted to the Emergency Centre because of the pain in the upper right abdominal quadrant, and he showed general weakness and fever. The initial inspection revealed a chronic cholecystitis exacerbation and a severe urinary tract infection caused by *Escherichia coli* complicating bilateral renal calculosis some time ago. There was an inflammatory syndrome and an echogenic collection with peripheral hypoechoic halo in the upper pole of the right kidney, which rose suspicion of kidney tumour. The urine analysis revealed 30-35 erythrocytes, profound leukocyturia and a large number of bacteria; *Escherichia coli* had been isolated from the urine culture specimen. The initial abdominal Multidetector Computed Tomography (MDCT) confirmed the collection in the upper pole of the right kidney amputating calyces for the upper pole, deforming the outer contour and perforating the kidney capsule with per continuitatem expansion to the liver perforating its capsule (Figure 1 a,b). The liver collection, located in the seventh segment (maximal diameter 57 mm) had almost identical imaging characteristics with that in the kidney (84 mm, lobulated, partly septated, with the thick liquid contents, post-contrast with the edge post-contrast enhancement).

Ciprofloxacin (400 mg i.v. infusion q12h) and amikacin (1 g i.v. injection q24h) were empirically initiated. However, disease deteriorated after 3 days, with the enlargement of both collections (105 mm-kidney, 90 mm-liver) and bilateral pleural effusion. We performed percutaneous drainage of both abscesses and took specimens of purulent content. The intracavitary contrast imaging showed an irregular, partly septated liver collection, which communicated with kidney. Therefore, the drainage included only the liver abscess (9F pigtail catheter) and 300 ml of the purulent content was collected (Figure 1c). The microbiological isolate found

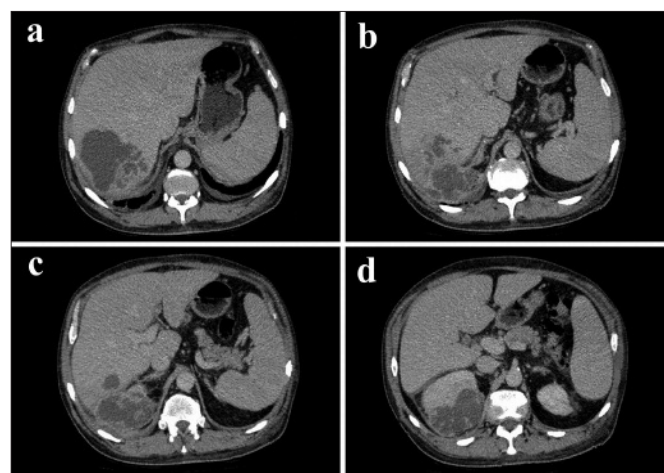


Figure 1 (a,b,c,d): Multidetector computed tomography imaging of liver and renal suppurative collections before (a,b) and after the treatment (c,d).

was *Escherichia coli* and the treatment was switched to imipenem (500 mg i.v. infusion q6h) plus metronidazole (1 g i.v. infusion q12h).

The patient's clinical status quickly improved, his laboratory parameters normalized, abscess shrank with residual right lung infiltrates, and a slight ipsilateral pleural effusion still remained (Figure 1d). The quantity of drained fluid was progressively reduced and ceased on the 22nd day, when the drain was removed. The inflammatory and biochemical markers on the 1st, 3rd and 15th day, also confirmed favourable clinical course: leukocyte counts (11.9, 15.0, 11.6  $\times 10^9/L$ ), C-reactive protein (217, 259, 88 mg/L), urea (4.6. and 4.5 mmol/L), creatinine (127, n.d., 88  $\mu\text{mol/L}$ ), gamma-glutamyl-transferase (98 IU/L, only on the 1st day), aspartate aminotransferase (28, n.d. 13 IU/L) alanine aminotransferase (46 IU/L, n.d. 8 IU/L) and haemoglobin (n.d., 115, 92 g/L). After 4 weeks, the patient was discharged and control CT imaging showed non-visible changes in neither liver nor kidney.

Case of this patient was different from similar cases published in available literature before.<sup>1,2</sup> An elderly woman also experienced hepatic and kidney abscess, simultaneously caused with *Escherichia coli*, but communication between collections had been established during the highly destructive disease.<sup>2</sup> The unique characteristic of this case is reflected in the fact that the abscess, originally found in the right kidney directly propagated to the liver via novel, pathological communication, formed during the silent, per continuitatem, progression of the bacterium from primary source. Thus, this patient's treatment had to cover pneumonia which appeared as a separate complication of the disease.

*Escherichia coli*, a causative agent in this patient, when it had been cultured from hepatic abscess usually

