Hepatic abscesses after adhesiolysis

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1. Case story

A 57-year old woman with a 6 h anamnesis of cramp-like diffuse abdominal pain and minor vomiting was admitted to the department for surgical emergency at midnight. The patient was known with Type 1 diabetes and diabetic neuropathy but otherwise healthy. The only prior surgery was a laparoscopic tubal sterilization. She had no recent travels.

The patient was afebrile, pulse; blood pressure and saturation were stable and all within normal range. On clinical examination the abdomen was found with diffuse tenderness but no defense. The pain subsided after IV morphine. Basic biochemistry was normal, White Cell count and CRP was 4.5 × 10^9 and <3 mg/L respectively (Normal values 3.3–8.8 × 10^9 and <5 mg/L respectively). There was no sign of liver dysfunction.

The next morning (8 h post admission) the abdominal pain was more intense and severe. An abdominal computed tomography (CT) scan was performed showing small bowel obstruction. At the subsequent laparotomy small bowel strangulation approximately 1 m from the ligament of Treitz was found. The strangulation was only a few millimeters wide and was due to adhesions from previous surgery. The bowel was found viable without signs of incarceration, perforation or peritoneal contamination. The liver was normal on palpation and inspection. The adhesions were resected and no further surgery was performed. No per- or post-operative antibiotics were initiated. The patient had an uncomplicated recovery, and was discharged 3 days later.

24 h after discharge, the patient was readmitted complaining of headache, dyspnea, fever and abdominal discomfort. The pulse was 90, temperature was 39.1 °C, and saturation was 95%. Except for a direct tenderness located at the right upper abdominal quadrant the clinical examination was without objective findings. Biochemistry showed an elevated dimer (4.3 mg/L, normal values <0.5 mg/L) but no signs of liver dysfunction or infection (white cell count = 7.5 × 10^9/L; CRP = 7 mg/L). A spiral CT of the chest was negative for pulmonary embolism.

The day after the readmission the patient's white cell count and CRP increased to 17.8 × 10^9/L and 147 mg/L respectively. Thus, treatment with IV Metronidazol 500 mg and Piperacillin/Tazocin 4 g/0.5 g was initiated on suspicion of post-operative infection. The patient become afebrile and felt better. Two days after initiation of antibiotics the patient complained of severe abdominal pain and cramping. An abdominal CT showed dilated intrahepatic bile ducts in the right hepatic lobe and several hepatic abscesses up to 5 cm (Fig. 1), which were not present on the initial CT scan. At ultrasound the abscesses were not found accessible for puncture or drainage. Thus, conservative treatment with antibiotics was decided. The patient was discharged after 9 days and a follow-up ultrasound after additional 14 days found the abscesses diminished in size to

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1.2 cm. The patient was asymptomatic and was discharged without further follow-up.

2. Discussion

To our knowledge this is the first recorded case of a patient developing intrahepatic abscesses after an uncomplicated laparotomy due to small bowel obstruction without perforation. Clinically significant bacterial translocation from the bowel to the surrounding mesenteric lymph glands and viscera has been proved in both animal and human models, especially if one of three basic conditions are present, namely: (1) disruption of the normal gastrointestinal flora, (2) intestinal manipulation or (3) impaired host immune defense [1–4]. Intestinal mucosal injury due to ischemia-reperfusion, as seen in prolonged mechanical small bowel obstruction, is hypothesized to lead to spreading of the translocated bacteria to the liver and spleen through the bloodstream [1,5]. A concomitant immunosuppression caused by the bacterial translocation [6] makes the patient even more susceptible to infections. Even though the connection between bowel obstruction and clinically significant bacterial translocation has been disputed [7,8], there has been case-reports of trauma patients [2] and animal studies [9] linking bowel obstruction with sepsis and/or bacterial translocation. The present patient both had a prolonged (>12 h) anamnesis with bowel obstruction and possible immunosuppression due to her Type 1 diabetes which both could have led to her developing intrahepatic abscesses. Nevertheless, it only can be speculated if a single-dose of prophylactic antibiotic would have changed outcome in this case.

In conclusion, Febrilia and pain in upper right quadrant of the abdomen days after a simple operation for bowel obstruction could be caused by translocation of intestinal bacteria and subsequent formation of hepatic abscesses. This article has been made in accordance with the CARE guidelines [10].

Conflicts of interest

No conflicts of interest.

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Ethical approval

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Consent

The patient has given her full consent to the publication of this article and the including pictures.

Authors contribution

Jacob Antonsen: literature review, writing of the article.
Roginin Balachandran: literature review, writing of the article.
Frederik Helgstrand: writing of the article.

Guarantor

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