



Multiple Pyogenic Liver Abscesses Following Hemorrhoid Banding

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Rubber band ligation is one of the most widely used and effective treatments for hemorrhoid disease. Hemorrhoidal band ligation is commonly performed as an outpatient procedure and is usually safe. We describe a patient who developed multiple pyogenic liver following the procedure.

Patient Description

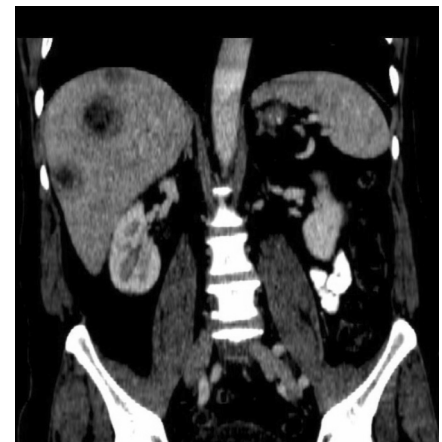
A 64 year old man was admitted with fever. He was generally healthy except for mild asthma that required no regular therapy, and remote history of rash after penicillin exposure. Two weeks before admission the patient underwent hemorrhoidal band ligation in an outpatient clinic. The following day he developed spiky fever and chills. There was mild nausea but no rectal bleeding or discharge. He consulted his primary physician who prescribed amoxicillin therapy, without benefit. Examination in the emergency department on the 14th day of fever revealed an acutely ill man. His temperature was 38.5°C. There was mild localized tenderness over the right flank and the right upper abdominal quadrant. Examination of the head and neck was normal and chest X-ray was normal. Abnormal laboratory findings on admission included: leukocytosis (white blood cells 19,900 K/ μ l, normal 4500–11,000), anemia (hemoglobin 10.7 g/dl, normal 12–17.5), elevated C-reactive protein (171 mg/L, normal 0–8), and

increased sedimentation rate (86 mm/hour, normal 0–20). Serum bilirubin and liver enzymes were not elevated.

Abdominal ultrasound demonstrated at least three intrahepatic hypoechoic non-homogenous lesions surrounded by a hyperechoic rim. Abdominal computed tomography after radio-contrast injection confirmed the presence of multiple hypodense lesions with ring enhancement [Figure] compatible with multiple liver abscesses. Other scanned regions including the perianal area and the portal veins looked intact. Needle aspiration of two abscesses performed under ultrasound guidance yielded a small quantity of white purulent and necrotic material. Culture of the sample grew *Fusobacterium necrophorum*. Cefuroxime and metronidazole were prescribed. The patient's condition gradually improved. Repeated culture from the abscesses after one week of therapy was negative. Abdominal CT showed reduction in the size of the abscesses. The patient was discharged home fully recovered after 2 weeks in the hospital, with oral metronidazole 500 mg three times a day and ciprofloxacin 500 mg twice a day.

Comment

We describe a patient who developed multiple pyogenic liver abscesses caused by *F. necrophorum* following hemorrhoidal band ligation. *F. necrophorum*, known to cause septic thrombophlebitis of the jugular veins (Lemierre syndrome), is a normal inhabitant of the gastrointestinal



Contrast-enhanced abdominal CT showing two liver abscesses, each surrounded by a hypodense rim

tract. *F. necrophorum* can gain access to the circulation via local penetration of blood vessels and spread via the portal system to produce multiple liver abscesses, a clinical and radiological picture sometimes reminiscent of diffuse malignancy [1]. It can also produce septic thrombosis of the portal vein (pylephlebitis) [2]. While septic complications occur very infrequently following hemorrhoidectomy or sclerotherapy of hemorrhoids, they are even rarer following band ligation. McCloud et al. [3] recently reviewed all published cases of severe septic complications after surgical treatment of hemorrhoids: 17 of 38 developed following rubber band ligation. Most of these patients developed perineal infection.

* The first two authors contributed equally to this study

Less common presentations included septic shock, retroperitoneal infection and liver abscess. Many patients had mixed infection. The most common pathogens recovered in these cases were *E. coli* (eight isolates). Other common isolates included streptococci [5], other gram negative rods [4], *Bacteroides fragilis* [4], *Staphylococcus aureus* [3] and clostridium species [2].

We could find only two previous case reports of liver abscesses due to hemorrhoidal banding [4,5]. Transient bacteremia can occur following hemorrhoid procedures but usually bears no connection to septic complications. Our patient, like most

other published cases with multiple liver abscesses due to *F. necrophorum*, responded to needle aspiration and medical therapy without the need for catheter drainage or surgical intervention.

References

1. Athavale NV, Leitch DG, Cowling P. Liver abscesses due to *Fusobacterium* spp that mimic malignant metastatic liver disease. *Eur J Clin Microbiol Infect Dis* 2002;21:884–6.
2. Bauer C, Schoonbroodt D, Wagner C, Horsmans Y. Liver abscesses due to *Fusobacterium* species. *Liver* 2000;20:267–8.
3. McCloud JM, Jameson JS, Scott AN. Life-threatening sepsis following treatment for haemorrhoids: a systematic review. *Colorectal Dis* 2006;8:748–56.
4. Ku JJ, Marfan M, Wall D. Pyogenic liver abscess after haemorrhoidal banding. *Aust NZ J Surg* 2005;75:828–30.
5. Wiese L, Nielsen X, Andresen K, Kjaer A, David K. 16S rDNA sequencing revealed *Citrobacter freundii* as the cause of liver abscess after banding of rectal haemorrhoids. *J Infect* 2005;50:163–4.

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