

Tuberculosis of Gallbladder with Candidiasis, a Rare Entity

B D K Leong, MS*, K W Chan, MD, P Ramu, FRCS**, V M Kumar, FRCS**, J A Chuah, FRCS****

*Department of Surgery, Kuala Lumpur Hospital, Jalan Pahang, 50586 Kuala Lumpur, Malaysia, **Queen Elizabeth Hospital, 88300 Kota Kinabalu, Sabah, Malaysia

SUMMARY

Gallbladder tuberculosis (GT) is an extremely rare condition. This is thought to be due to the protective property of bile against the infection. Clinical and radiological diagnosis of GT is difficult. We describe a case of GT who initially presented to us with jaundice, a right hypochondrial mass and computed tomographic findings suggestive of gallbladder empyema. Diagnosis was made from histopathological examination of the resected gallbladder which revealed epithelioid granulomas with caseating necrosis and presence of Langhan's giant cells. From a literature search and to the best of our knowledge, this is the first GT to be reported in South East Asia.

KEY WORDS:

Gallbladder tuberculosis, Candidiasis, Biliary stricture

INTRODUCTION

Gallbladder tuberculosis (GT) was first described by Gaucher in 1870 and it is an extremely rare condition. Due to its rarity and inaccuracy of clinical and radiological diagnosis, GT is a predominantly a post-operative diagnosis from histological examination of resected or biopsied specimens.

CASE REPORT

A 52 year old gentleman presented to us at Queen Elizabeth Hospital, Malaysia, with one week history of right hypochondrium pain which was associated with features of obstructive jaundice. He also gave a history of fever and night sweats for 2 weeks. There was no history of loss of weight and appetite. He is not a diabetic and did not have other significant past medical history. Examination revealed a tender globular mass at right hypochondrium. Liver function test confirmed obstructive jaundice with total bilirubin of 123 $\mu\text{mol/L}$, direct bilirubin of 113 $\mu\text{mol/L}$, alkaline phosphatase of 536 IU/L and normal liver transaminases. Chest X-ray was normal.

Endoscopic retrograde cholangio-pancreaticography (ERCP) revealed a stricture measuring 2.5 cm in length at the proximal common bile duct. A 10F stent was inserted together with brushing for cytology and bile for investigations. Brush cytological examination was non-conclusive but bile culture grew candida albicans.

CT scan was subsequently performed which showed a thickened gallbladder wall with features of empyema and inflammatory tissue causing narrowing of the pylorus and duodenum (Figure 1). No cholelithiasis noted. The patient

subsequently underwent diagnostic laparoscopy which was converted to a subcostal open approach due to dense adhesions of surrounding tissue. Intra-operatively, the gallbladder was noted to be thickened and containing pus. There was adhesions to liver, pylorus and transverse colon. Partial cholecystectomy was performed.

Patient had an uneventful post-operative recovery. Histopathology examination revealed epithelioid granulomas with caseating necrosis and presence of Langhan's giant cells peculiar to that of tuberculosis (Figure 2). Acid fast bacilli was not detected. Post-operative Mantoux test was positive with the reading of 12 mm and erythrocyte sedimentation rate (ESR) was 101 mm/hr. Human immunodeficiency viral screening was negative. Patient was started on anti-tubercular treatment, - ethambutol, isoniazid, rifampicin and pyrazinamide and also oral fluconazole 200mg for 6 weeks. Anti-tubercular treatment is to be given for 1 year. He was well during his last follow up clinic 2 months after discharged from hospital. He is planned for a repeat ERCP 3 months after initial procedure to re-assess the biliary system for possible biliary dilatation or further stenting if there is still significant stricture of the CBD. Bile culture for fungus will also be repeated.

DISCUSSION

Tuberculosis is a common disease in developing countries and among immunocompromised patients. It was estimated that there 9.2 million new cases of TB occurred in 2006 (139 per 100 000) with Asia accounting to 55% of global cases.

Abdominal tuberculosis is one of the commonest forms of extra-pulmonary tuberculosis with prevalence up to 25% in patients with active pulmonary tuberculosis¹. While tuberculosis of the abdomen is common, gallbladder tuberculosis is an extremely rare entity. Only around 50 cases have been reported in the literature till 2003². This is thought to be due to the protective effect of concentrated bile towards mycobacterium tuberculosis^{3,4}. The route of infection can be haematogenous, invasion from lymphatics or peritoneal tubercles⁴. The presence of cholelithiasis and biliary obstruction are considered to be two most important contributing factors in the development of GT^{3,4}. Up to 70% of GT cases are associated with gallstones. This explains why GT is most common in women more than 30 year old. Our case, in contrast, is a gentleman and has no cholelithiasis. Furthermore, there was the presence of superimposed candidiasis which, to the best of our knowledge, has never been described before. Candidiasis of the biliary system is not common and usually occurs in immuno-compromised

This article was accepted: 25 May 2011

Corresponding Author: Benjamin Dak Keung Leong, Department of Surgery, Kuala Lumpur Hospital, Jalan Pahang, 50586 Kuala Lumpur, Malaysia
Email: bleongdk@yahoo.com



Fig. 1: Computed tomography showing a thickened gallbladder suggestive of empyema (arrow).

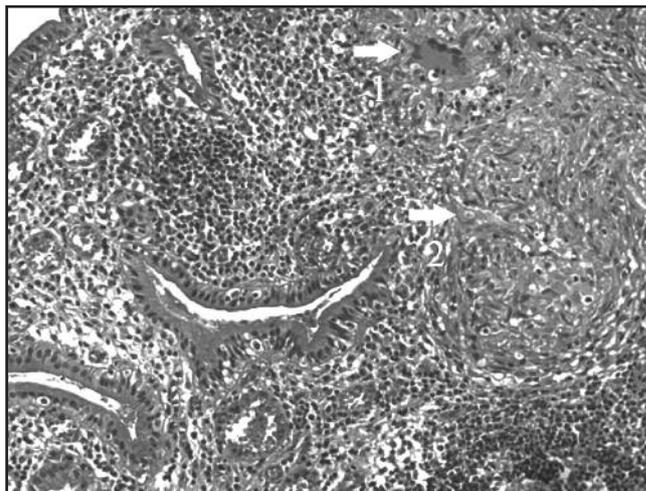


Fig. 2: Histology of specimen revealing 1) Langhan's giant cell 2) Caseating granuloma.

patients such as diabetics, patients on immunosuppressant drugs and as well as patients with acquired immunodeficiency syndrome (AIDS). However, our patient did not have any such risk factors. We believe that the candida infection was of opportunistic in nature due to tuberculosis infection with secondary cholestasis.

Patients with GT can present with a wide range of symptoms which include right hypochondrial pain, weight loss, fever, anorexia, diarrhoea, nausea, vomiting and abdominal mass³. Most patients will also have anaemia, elevated ESR and positive mantoux test³. Differential diagnosis of GT include acute and chronic cholecystitis, gall bladder carcinoma and polypoidal lesions³. Radiological features of GT in ultrasound and CT include enlarged gallbladder, thickened gallbladder wall, soft tissue masses, nodular lesions and evidence of tuberculosis of other abdominal organs but neither such findings is specific^{2,3,5}. GT is also difficult to differentiate from gallbladder carcinoma radiologically as both conditions can give rise to a gallbladder mass with lymph node enlargement. Presence of liver metastasis will suggest the latter in such conditions.

Diagnosis of GT is conclusively made from histopathological examination of either resected or biopsied specimen. Classical granulomatous reaction with presence of multinucleated Langhan's giant cells and caseating necrosis are hallmarks.

Presence of acid fast bacilli on ZN staining will further confirm the diagnosis but not all GT will demonstrate that. In a series of five cases of GT by Kapoor *et al*, acid fast bacilli was only demonstrated in one case².

In conclusion, GT is a very rare entity with most diagnosis made only after histological examination. GT should be suspected in patients with anaemia, elevated ESR, positive Mantoux test and radiological features suggestive of GT especially in areas where tuberculosis is common.

ACKNOWLEDGEMENT

The authors would like to show their appreciation to Dr. Othman Abdullah, Dr. Noorafidah Md. Din and Dr. Nurul Zaireen bte Mohammad Uha, Pathology Department, Queen Elizabeth Hospital, for providing the illustrations.

REFERENCES

- 1) Haddad FS, Ghossain A, Sawaya E, Nelson AR. Abdominal tuberculosis. *Dis Colon Rectum* 1987; 30: 724-35.
- 2) Kapoor S, Sewkani A, Naik S, *et al*. Myriad presentations of gall bladder tuberculosis. *Indian J Gastroenterol* 2006; 25: 103-4.
- 3) Yu R, Liu Y. Gallbladder tuberculosis: case report. *Chinese Med J* 2002; 115: 1259-61.
- 4) Abu-Zidan FM, Zayat I. Gallbladder tuberculosis: case report and review of the literature. *Hepatogastroenterol* 1999; 46: 2804-6.
- 5) Jain R, Sawhney S, Bhargava D, *et al*. Gallbladder tuberculosis: sonographic appearance. *J. Clin Ultrasound* 1995; 23: 327-9.