

# Tuberculosis Biliary Stricture Simulating as Cholangiocarcinoma

RANJIT KUMAR PADHIARI<sup>1</sup>, M.K RAMESH<sup>2</sup>, PRAVEEN G.P<sup>3</sup>, NIYAZ AHMED<sup>4</sup>

**Keywords:** Biliary stricture, Obstructive jaundice, Polymerase chain ction (PCR), Tuberculosis

Tuberculosis (TB) is a rare cause of biliary stricture that is difficult to diagnose preoperatively. Patient present with obstructive jaundice, which may be confused with hepatobiliary malignancies. Suspicion of the disease with knowledge and awareness and establishing tissue diagnosis along with advent of image guided FNAC, endoscopic brush cytology and PCR testing of bile, diagnosis of hepatobiliary TB can be made without the need of laparotomy. Biliary TB is a potentially curable condition when diagnosed preoperatively requiring antituberculosis therapy & avoiding surgery [1]. Surgery is most often required for relief of biliary obstruction [2]. Failure to obtain preoperative tissue diagnosis may lead to histological diagnosis of biliary TB only after major surgery.

TB of lower end of common bile duct (CBD) and periampullary region often forms pseudotumour and strictures mimicking cholangio carcinoma [3]. Hepatobiliary TB may be caused by three ways: (1) Spread of caseous material from the portal tracts into the bile ducts (most often), (2) Secondary inflammation-related tuberculous periportal lymphadenitis, (3) Spread of caseous material through the ampulla of Vater and ascending along the CBD [4]. Benign biliary strictures fall into two etiological groups: Traumatic (Post operative, Blunt, or Penetrating injury) and Non-traumatic (Sclerosing cholangitis, Recurrent pyogenic cholangitis, Chronic pancreatitis, Mirizzi syndrome) [5]. Various other benign conditions are Eosinophilic granuloma, Duodenal papillitis, Infestations due to *Ascaris lumbricoides* and *Clonorchis sinensis*. Tuberculous biliary stricture is due to the secondary endo luminal inflammatory process and scarring. Tuberculous biliary stricture involves all parts of the biliary tree, but commonly involving CBD [6].

We came across five cases of Tubercular biliary stricture in last six years. All the patients had no specific clinical findings & there was lack of constitutional symptoms of TB such as fever and night sweat, absence of past history of TB, negative tuberculin skin test, lack of radiological evidence of old or active TB. CBD was involved with either stricture or pseudo tumour [Table/Fig-1].

The factors like (1) a past history of TB, (2) other systemic manifestations like pulmonary or generalized lymph node involvement, (3) associated involvement of other abdominal organs, (4) mild jaundice, (5) abdominal pain more than an abdominal mass, (6) image guided FNAC or biopsy in suspected cases, and (7) the geographic area where the patient resides might help in differentiating biliary TB from biliary tract malignancy [7]. Preoperative diagnosis of TB as the cause of obstructive jaundice is extremely difficult often compelling major resectional surgery such as whipples pancreatoduodenectomy. In most of the cases, final diagnosis is reached in the postoperative period by the histological finding of caseation necrosis and epitheloid granuloma formation and Langhans giant cells [1]. All

	Presenting as pseudo tumour	Presenting as stricture	Pre-op Brush cytology/ biopsy +ve for TB	Pre-op PCR of bile aspirate +ve for TB	Post-op HPE +ve with -ve Pre-op for TB	Stenting
Case 1	✓				✓	
Case 2	✓				✓	
Case 3		✓	✓			✓
Case 4		✓	✓			✓
Case 5		✓		✓		✓

[Table/Fig-1]: Findings of five cases in present study

the patients in our study were put on ATT. Patients without surgery showed improvement and are on regular follow up. My research review on various documented articles reflects the need to diagnose this disguising condition with various available investigations keeping TB in mind [Table/Fig-2].

There are several proposed investigations for preoperative diagnosis, for example, detection of acid fast bacilli (AFB) after staining or culture in the biliary fluid aspirate during ERCP, FNAC, and frozen section [18]. PCR technique for Mycobacterium TB from biliary fluid is helpful because of its sensitivity [6].

Studies	Obstructive Jaundice	PRE-OP FNAC Cytology +VE For TB	PRE-OP Brush Biopsy/ Biopsy of CBD or Specimen +VE For TB	PRE-OP Lymph Node Biopsy +VE For TB	POST OP HPE +VE With -VE PRE-OP For TB
Samreng and Arun [8]	✓		✓	✓	
Kok and Yapp [9]	✓	✓			
Prasad and Pandey [10]	✓				✓
Khalid and Aljebreen [11]	✓			✓	
Tomohisa et al., [5]	✓		✓		
Rupesh et al., [12]	✓	✓	✓		
Sundeeep et al., [13]	✓	✓			✓
Usha et al., [14]	✓	✓			
Yeh et al., [6]	✓				✓

Sumantra et al., [15]	✓				✓
Jethwani et al., [16]	✓				✓
Vijay et al., [17]	✓		✓		
Present study	✓		✓		✓

**[Table/Fig-2]:** comparison of various published literature with the present study

The tubercular biliary stricture can be cured with antitubercular medications with excellent prognosis. In few reported cases, the biliary stricture does not resolve with medical therapy alone and requires surgical intervention and biliary metallic stent placement [1]. Whipples pancreatoduodenectomy is done for distal CBD stricture and choledochoduodenostomy is required in multiple strictures. Sequential placement of multiple plastic stents has been shown to be effective, as the stents both enable biliary drainage and act as dilators [17]. Although favourable results can be achieved by medical therapy and with repeated stenting of the bile ducts, long-term follow-up is required due to the risk of post-treatment cicatricial stenosis [5].

If preoperative diagnosis is established, major surgery can be avoided, which increases morbidity and mortality. Patients presenting with a short history with relatively good health from tuberculosis endemic country like India, tubercular biliary stricture should be kept in mind as a differential diagnosis. These benign lesions should be differentiated from malignant masquerade, equally keeping in mind not to mistake malignant lesions for benign lesions.

## REFERENCES

- [1] Inal M, Aksungur E, Akgul E, Demirbas O, Oguz M, Erkocak E. Biliary tuberculosis mimicking cholangiocarcinoma: treatment with metallic biliary endoprosthesis. *Am J Gastroenterol.* 2000;95:1069-71.
- [2] Miyamoto S, Furuse J, Maru Y, Tajiri H, Muto M, Yoshino M. Duodenal tuberculosis with a choledocho-duodenal fistula. *J Gastroenterol Hepatol.* 2001;16:235-38.
- [3] Adsay NV, Basturk O, Klimstra DS, Klöppel G. Pancreatic pseudotumours: Non-neoplastic solid lesions of the pancreas that clinically mimic pancreas cancer. *Semin Diagn Pathol.* 2004;21:260-67. [PubMed]
- [4] Alvarez SZ, Carpio R. Hepatobiliary tuberculosis. *Dig Dis Sci.* 1983;28:193-200.
- [5] Tomohisa Iwai, et al. Biliary tuberculosis causing cicatricial stenosis after oral antituberculosis therapy. *World J Gastroenterol.* 2006;12(30):4914-17.
- [6] Yeh TS, Chen NH, Jan YY, Hwang TL, Jeng LB, Chen MF. Obstructive jaundice caused by biliary tuberculosis: Spectrum of the diagnosis and management. *Gastrointest Endosc.* 1999;50:105-08.
- [7] Mahendran Govindasamy, Thiagarajan Srinivasan, Vibha Varma, et al. Biliary Tract Tuberculosis—A Diagnostic Dilemma. *J Gastrointest Surg.* 2011;15(12):2172-77.
- [8] Samreng Ratanarapee, Arun Pausawasdi. Tuberculosis of common bile duct-case report. *HPB Surgery.* 1991;3:205-08.
- [9] Kok KY, Yapp SK. Tuberculosis of the bile duct: A rare cause of obstructive jaundice. *J Clin Gastroenterol.* 1999;29(2):161-64.
- [10] Prasad A, Pandey KK. Tuberculous biliary strictures: Uncommon cause of obstructive jaundice. *Australas Radiol.* 2001;45(3):365-68.
- [11] Khalid E Alsawat, Aljebreen AM. Resolution of tuberculous biliary stricture after medical therapy. *World J Gastroenterol.* 2006;12(7):1153-56.
- [12] Rupesh Prasad, et al. Tuberculosis of the biliary tract: A rare case of biliary stricture-case report. *Hospital Physician.* 2007;29-32.
- [13] Sundeeep S Saluja, et al. Hepatobiliary and pancreatic tuberculosis: A two decade experience. *BMC Surgery.* 2007;7:10:1-9.
- [14] Usha D, et al. Biliary tuberculosis masquerading as cholangiocarcinoma. *Trop Gastroenterol* 2011;32(1):64-66.
- [15] Sumantra Ray, et al. Obstructive jaundice due to tuberculosis of distal CBD and periampullary region mimick cholangiocarcinoma. *Niger J Surg.* 2012;18:17-18.
- [16] Jethwani U, et al. Tuberculosis of biliary tract: A rare cause of common bile duct stricture. *OA case reports.* 2013;2(6):53.
- [17] K Vijay, S Naidu, R Godara, V Vijayvergia. Tubercular biliary stricture – a malignant masquerade. *S Afr J Surg.* 2013;51(3):143.
- [18] Bearer EA, Savides TJ, McCutchan JA. Endoscopic diagnosis and management of hepatobiliary tuberculosis. *Am J Gastroenterol.* 1996;91:2602-04. PubMed.

### PARTICULARS OF CONTRIBUTORS:

1. Post-Graduate, Department of General Surgery, Bangalore Medical College & Research Institute, Bangalore, India.
2. Professor, Department of General Surgery, Bangalore Medical College & Research Institute, Bangalore, India.
3. Post-Graduate, Department of General Surgery, Bangalore Medical College & Research Institute, Bangalore, India.
4. Senior Resident, Department of General Surgery, Bangalore Medical College & Research Institute, Bangalore, India.

### NAME, ADDRESS, E-MAIL ID OF THE CORRESPONDING AUTHOR:

Dr. Ranjit Kumar Padhiari,  
Room No-140, Centenary Building, Ground Floor, Victoria Hospt, Bmcrci, Fort-560002, Bangalore, Karnataka, India.  
E-mail: ranjitrajkishorepadhiari@gmail.com

FINANCIAL OR OTHER COMPETING INTERESTS: None.

Date of Submission: **Sep 15, 2014**  
Date of Peer Review: **Jan 29, 2015**  
Date of Acceptance: **Feb 02, 2015**  
Date of Publishing: **Mar 01, 2015**