



## ACCESSORY GALLBLADDER: - A RADIOLOGICAL, SURGICAL CHALLENGE AND ANATOMIC VARIATION A RARE CONGENITAL ANOMALY OF GALLBLADDER AND ACCESSORY APPENDAGE

<sup>1</sup>Dr. Samindra Nath Basak, <sup>2</sup>Prof. Shibajyoti Ghosh and <sup>3,\*</sup>Dr. Debarshi Jana

<sup>1</sup>Vivekananda Institute of Medical Sciences, Kolkata, West Bengal, India

<sup>2</sup>Calcutta Medical College, 88, College Street, Kolkata-700073, West Bengal, India

<sup>3</sup>Institute of Post-Graduate Medical Education and Research, A.J.C. Bose Road, Kolkata-700020, West Bengal, India

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### ABSTRACT

Accessory Gallbladder is an extremely rare anomalous condition, with the advent of state of the art imaging modalities it is possible now to diagnose the anomaly appropriately, pre-operatively and treatment can be performed with precision. We present here one such case from our clinical practice. Open surgery for removal of such abnormalities are useful for accessory gallbladder (intra hepatic positive) which lies structurally closed to right or left hepatic duct or other vascular structure.

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## INTRODUCTION

A 40 years old premenopausal female was suffering from pain in the epigastric and right hypochondriac region for the last 1 year associated with nausea, vomiting and low grade fever. She did not complain of any jaundice, biliary colic or bladder and bowel dysfunction. The patient did not have any significant past medical history. On general examination all the parameters were essentially normal. On local examination we found there was a small firm swelling in right hypochondria, apparently palpable gallbladder with mild tenderness. The baseline investigations were within normal limit. The ultrasound examination of abdomen was performed initially which showed normal liver with size and echogenicity along with normal gallbladder common bile duct and portal vein. It also showed a 42x26 mm cystic SOL with intra luminal sludge in the peri-portal region (intra hepatic deep in the gallbladder fossa).

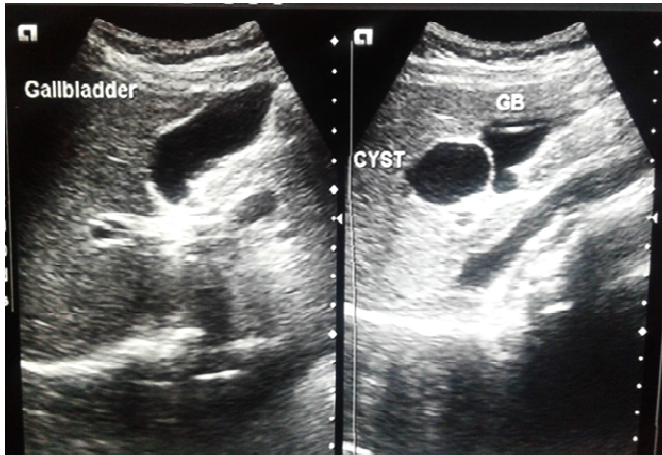
**\*Corresponding author: Dr. Debarshi Jana,**  
Institute of Post-Graduate Medical Education and Research, A.J.C. Bose Road, Kolkata-700020, West Bengal, India.

This cyst appeared to be communicating with right hepatic duct and suggested the possibility of choledochal cyst (Figure-1). However, as the cystic lesion was super imposed on the normal gallbladder possibility of hydatid cyst of liver, accessory gallbladder could not be ruled out. Serological test for hydatid cyst was performed but the results were negative. Subsequently tri-phasic CT scan of the upper abdomen was obtained to further define the cyst and its relation to the surrounding vascular structure. On CT imaging it was found to be a well defined ovoid cystic lesion (CT value+35 to +43 HU) inside the segment five (V) of the liver abutting on the gallbladder at bifurcation of portal vein and hepatic artery with displacement of hepatic artery. We suspected a double or accessory gallbladder within the patient and plan for open surgery because of intra hepatic position of the cystic lesion and its proximity major blood vessel, communication to the right hepatic duct (Figure-2). The MRI was performed which read as gallbladder wall thickness being normal with good physiological distention and no intra luminal inclusion defect. The cystic lesion was described as 38x27 mm in segment five (V) of liver lying superior to the normal gallbladder with narrow neck connected to the right hepatic duct, suggestive

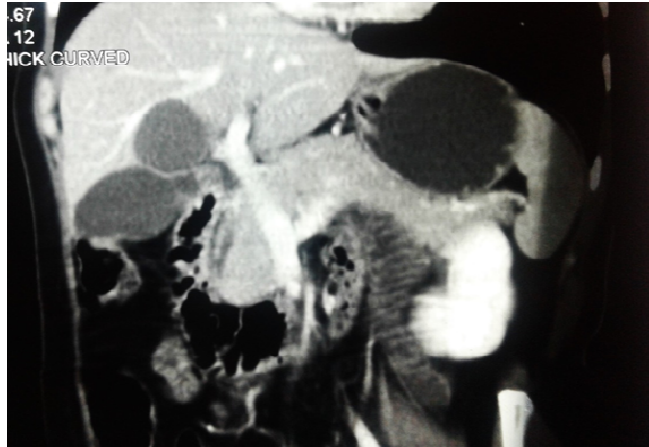
double gallbladder where the intra hepatic gallbladder was pathological and containing stones.

### Operative Note

Under general anesthesia with sub costal incision was made, the normal gallbladder was dissected out with intact cystic duct and artery. The second lesion was deep in the gallbladder bed. The second gallbladder was gradually mobilized with alternate blunt and sharp dissection; important vascular structures were safe guarded.



**Figure 1. Ultrasonography of the hepato biliary system showing two cavities One was the accessory gallbladder with stone and another was normal gallbladder in normal anatomical position**



**Figure 2. CT scan showing anatomical position of the two double gallbladder**

The hilar confluence was dissected out and vascular control was taken. One small artery feeding the cyst arising from the left hepatic artery was noted and ligated. Rest of the cyst was mobilized and a connecting duct was seen draining in the right hepatic duct. The connecting duct was ligated and the whole cyst was excised. We deliberately opted for open procedure because the intra hepatic gallbladder was containing multiple stones and was infected and was intimately adherent with the important structures of the porta hepatis (See Figure 2). There are reports where laparoscopic procedure has been abundant because of difficulty in identifying structures and bleeding (Papaziogas *et al.*, 2005). As it was not possible to identify the anatomical structures safely, the procedure was converted to open cholecystectomy.

### DISCUSSION

Embryological anomalies are uncommon and double gallbladder has an incidence of approximately 1:4000 (Yagan Pillay., 2015). These anomalies are mostly diagnosed by modern imaging modality. Trans abdominal ultra sound is a preliminary imaging for upper abdominal symptoms, majority of the cases of congenital anomalies of Gallbladder reported. Any cystic lesion in the gallbladder region other than gallbladder needs further imaging. Various differential diagnosis like Choledochal cyst, hydatid cyst, simple cyst of liver, rarely duplication of gallbladder are entertained. MRI with MRCP and MDCT both have very good imaging resolution for the intra hepatic lesion. However cystic lesions of the biliary tree are better delineated by MRCP. In this patient close proximity and super imposition of the cystic lesion with the gallbladder was reported by both MRI & MRCP and MDCT scan and possibility of duplication of the gallbladder was considered. Various embryological anomaly of the gallbladder has been reported in the literature. Harlaftis *et al* classified gallbladder in to three groups. Type one is the split primodium which could be septet, V shaped or T shaped. Type two was accessory gallbladder having the trabecular pattern or H pattern other types of anomalies were grouped in to type three (Harlaftis *et al.*, 1977). Accurate imaging of gallbladder anomalies is very essential to avoid iatrogenic vascular and biliary injuries as reported in the literature. In our case the accessory gallbladder was found to be present superior to the primary gallbladder and accessory gallbladder had a separate cystic duct draining in to the right hepatic duct. Open surgery is possible in this type of accessory gallbladder because of its closed proximity to the right and the left hepatic duct and vascular structure. We did a CT scan and MRI scan to identify the structures in details to avoid injury to the respective ducts during the surgery. Accessory gallbladder with cystic duct opening in both right and left hepatic duct has been reported (Hassan *et al.*, 2012)

### Conclusion

Double gallbladder and accessory gallbladder are rare but surgically challenging in clinical practice. Pre operative diagnosis can be made by verity of imaging modalities like ultrasound, CT scan and MRI. In this case intra hepatic gallbladder was diseased and containing stone with infection leading to adhesion. Open surgery for removal of the abnormalities are helpful for accessory gallbladder which lies structurally closed to right or left hepatic duct or other vascular structure.

### REFERENCES

- Harlaftis, N., Gray, S.W., Skandalakis, J.E. 1977. Multiple gallbladders. *Surg Gynecol Obstet.* 145: 928–934.
- Hassan, S., Young, A.L., Farooq, M., Pai, D., Gough. M 2012. Accessory gallbladder: a new anatomical variation arising from both left and right hepatic ducts. *Ann R Coll Surg Engl.* 94: e204–e205.
- Papaziogas, B.<sup>1</sup>, Lazaridis, C., Paraskevas, G., Koutelidakis J., Katsinelos, P., Oikonomou, B., Chatzimavroudis G., Grigoriou, M., Atmatzidis, K. 2005. A variant of the double gallbladder. A possible cause of cholelithiasis. *Folia Morphol (Warsz).* 64(3):229-32.
- Yagan Pillay. Gallbladder duplication. *Int J Surg Case Rep.* 2015; 11: 18–20.