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# An Abnormal Liver with a Bifid Gall Bladder - A Case Report

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**Abstract:** ***Duplicate gallbladder is a very rare congenital anomaly with various anatomical presentations that can lead to difficult diagnostic dilemmas. Here the routine dissection classes of Anatomy, we came across this rare anamaly with a Liver grossly enlarged and abnormal. These variations appear significant in laproscopic surgeries, may present with recurrent cholelithiasis or harbor a risk of torsion and cholelithiasis. Awarness of this entity is necessary in the fields of Anatomy, Surgery, Radiology and Gastroenterology.***

**Keywords:** Gallbladder, Liver, Congenital anamaly

## 1. Introduction

Gallbladder anomalies are rare. Its functionally silent nature increases the significance of reporting these rare entities. Duplication incidences approximates to 1: 4000 (1) The first case was reported in in a prisoner who was sacrificed by the Emperor Augustus in 31 BC (2) Gall bladder is a sac like reservoir for bile draining to the common bile duct by the cystic duct. It is normally located in the Right hypochondrium partly sunk in a fossa in the inferior aspect of right hepatic lobe. It extends from near the right end of the porta hepatis to the inferior hepatic border. Its u is attached to the liver by connective tissue and is completely invested by peritoneum. (3)

## 2. Case Report

On routine cadaveric dissection of Abdomen, in first MBBS students, we came across an abnormally huge liver covering almost the upper half of the abdominal region. The cadaver belonged to a 78 year old male.

The right lobe extended 20.8 cm down and reached the upper aspect of Right iliac fossa. The liver encroached into the umblical and left lumbar regions. The left lobe measured 19.4 cm vertically and the Liver presented a total transverse width of 39.1cm. The Liver was tightly adherent to the Diaphragm above and intestines below.

The Liver was grossly enlarged, surface presented multiple nodules and many focal areas of tumor with the biggest one measuring 10.8cm vertically and 9cm transversely over the anterior surface of left lobe. The liver was also studded with Cystic leisions showing ruptured cysts in the superior and anterior surfaces of the Right lobe.

Inferior venacava and porta hepatis appeared normal. The ligaments were thick and the Ligmentum teres was thick and showed multiple nodularity with a band of hepatic tissue bridging the groove. The caudate lobe was abnormally big measuring 13.8cm verticaly and 12 cm transversely with prominent caudate and papillary processes measuring transversely 6cm and 2.8 cm respectively. Quadrate lobe was 6.5 cm in vertical and 3.8 cm in transverse dimensions.

The Gallbladder appeared abnormal with two fundal sacs hanging separately fusing together and continuing as a single body and neck. (FIG.1). The cystic duct was dissected and found to be single and normal communicating through a single ostium. They were perfused by single vessels. The gallbladder was divided and contents expelled by making an incision from posterior aspect in the region of bifurcation of the dual sacs and contents cleared. An incomplete septum was noticed projecting partially from the anteroinferior aspect into the lumen. The rest of the mucousa appeared normal and bile stained. (FIG.2)

The gallbladder was 12, 8 cm in length in the region of left sac and 5.5 cm in the region of right sac. The maximum breadth measured 8.1cm. The inferior border of the Liver was deeply notched measuring 11.2 cm. The fundus (left) extended 3.1 cm low the inferior margin.

## 3. Discussion

Here we report a case of duplication of Gall bladder which is very rare and occurs in about 3800 - 4000 births (1) It presented in a Liver with the possible diagnosis of Hepatocellular Carcinoma. The differential diagnosis includes a large gallbladder with a floppy fundus or a chronic cyst abutting from the fundus of the Gallbladder, a diverticula or a large fold, Phyringian cap or focal adenomyomatosis. . Congenital anomalies and variations in normal anatomy of gallbladder are not that common. They gain significance in scenarios of laproscopic interventions and cholecystectomy procedures as a blind eye towards those may lead to iatrogenic injuries contributing to morbidity and mortality. However, this rare anamaly often goes unnoticed and is identified only in imaging, operation tables or dissection tables. Preoperative imaging with intraoperative cholangiography helps in a diagnosis. Magnetic resonance cholangiopancreatography (MRCP) and ERCP can precisely illustrate the complicated anatomy even in pathological states and are highly advocated. As a septum is incompletely separting both the fundus, we can assume that the embryological origin is from the same primodium (vella fellia divisa) (4). Harlaftis classifies the gallbladder anomalies based on embryological origin as follows: Type 1 duplicate gallbladders origins from a single primordium and splits later as they develop sharing a common cystic duct

that drains both gallbladders. The septate gallbladder presents as a single cystic sac divided by an involuting wall but both the gallbladders are joined at the base draining into a common cystic duct. In V - shaped variant types, the two gallbladders present cystic ducts opf their own, which drain at a shared point along the common bile duct. In Y - shaped variant presentation, each gallbladder drains into its own independent cystic duct which joins to form a common cystic duct that opens into the common bile duct (5). The complications include a torsion or increase incidence of cholelithiasis due to inadequate drainage of bile.

## 4. Conclusion

Duplicate gallbladder poses a risk for presenting with recurrent cholecystitis despite cholecystectomy. To avoid this, patients with this anamaly, presenting with disease in any one gallbladder, removal of both is ideal to prevent recurrence of disease. (6, 7, 8) But still, the removal of an asymptomatic double gallbladder is non advocated and highly controversial. Awarness of this entity is necessary in the fields of Anatomy, Surgery, Radiology and Gastroenterology.

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## Figures

**Figure 1:** Liver with the abnormal gallbladder showing double fundus, bridging of the fissure and nodular ligamentum teres with huge caudate lobe

**Figure 2:** Gallbladder showing incomplete septation