Case report

Incidental discovery of situs inversus of the gallbladder due to stones during a coelioscopic approach

Abstract :

Atypical gallbladder location to the left of the round ligament is a rare anomaly of the biliary system. Although the conventional nomenclature as a left-sided gallbladder (LSGB) is commonly used, this definition can be confusing due to lack of anatomic details. This report describes an atypical gallbladder location associated with a right round ligament and an anomalous intrahepatic portal venous branch, surgically removed by laparoscopy.

Keywords: Cholecystectomy, ectopic gallbladder, gallbladder abnormalities, laparoscopy, right round ligament

Introduction:

Atypical gallbladder (GB) location, as a rare anomaly of the biliary system, is defined as a GB located on the left side of the ligamentum teres (LT) without situs inversus viscerum.[1,2]Because of its location just to the left of LT, it was commonly misnamed as only
a left skeletal gallbladder (LSGB) without a detailed anatomic examination that gives the exact pathology causing this anomaly.[1-4]An association with anomalies of the biliary and portal venous systems is a significant problem especially during laparoscopic cholecystectomy and hepatectomy, especially during living donor transplantation.[1,2]

In this report, we aim to present an atypical GB localization related to RSLT treated by standard laparoscopic cholecystectomy, and its detailed anatomic topography.

Case presentation :

Patient and observation

73 year old hypertensive on dual therapy appendectomy in childhood
Thyroidectomized under levothyrox for 20 Allergic to penicillin
Disease history : would go back 7 months with episodes of hepatic colic without fever or vomiting Biological assessment of 7/10 without anomalies

Thin-walled GB with macrolithiasis located at the infundibular level measuring 14mm without dilation of the GBHaving benefited from a coelioscopic cholecystectomy with a French Position installation

Type of incision(s): 4 trocars: open coelio: 1 10 mm umbilical trocar, 1 10 mm left flank trocar, 1 5 mm epigastric trocar and FID Exploration:
Situs inversus of the gallbladder loops. Ectopic gallbladder with a gallbladder bed at the level of segment 4 to the left of the round ligament with some epiploic adhesions
With standard port localization and LT lift, it was possible to perform laparoscopic cholecystectomy
Action(s) taken:
* Dissection of Calot's triangle with individualization of the artery and the cystic duct.
* Section of the cystic artery between 3 clipps.
* Section of the cystic duct between 3 clips (2 clips on the cystic stump).
* Laterograde cholecystectomy
.Careful hemostasis
* textile account is good
* Extraction of the gallbladder through the umbilical trocar.
* Exsufflation of pneumoperitoneum
* parietal closure plane by plane
Operating time: 40 min
Estimated blood loss: 0 ml

The specimen sent to the anapathologist had an edematous and hydropic appearance with an impaction of a stone at the neck level. She was discharged without incident on the first postoperative day. The anatomopathological examination showed chronic lithiatic cholecystitis.
No cholangiopancreatography or magnetic resonance angiography was performed to detect abnormalities of the biliary and portal venous system.

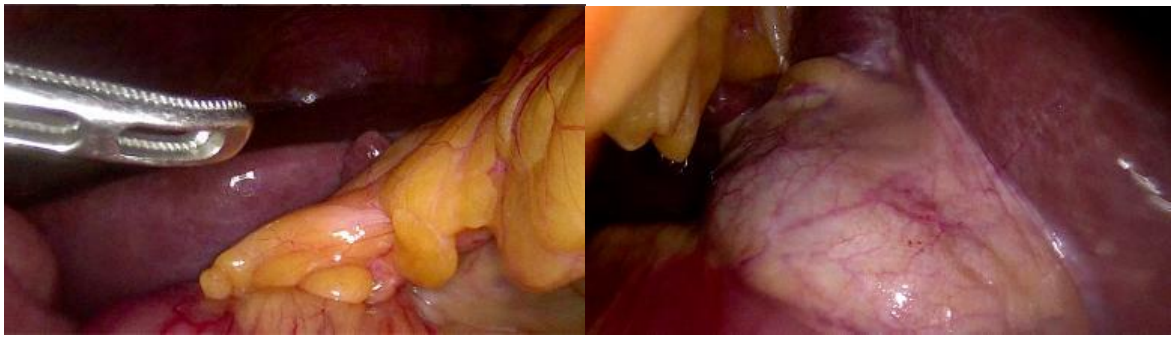

Figure 1: Ectopic VB

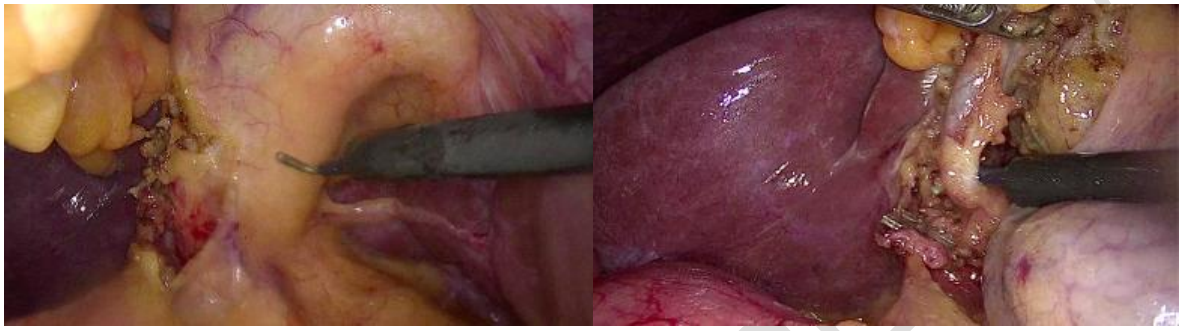

Figure 2: before and after dissection of the VB elements and ligation then section of the cystic artery

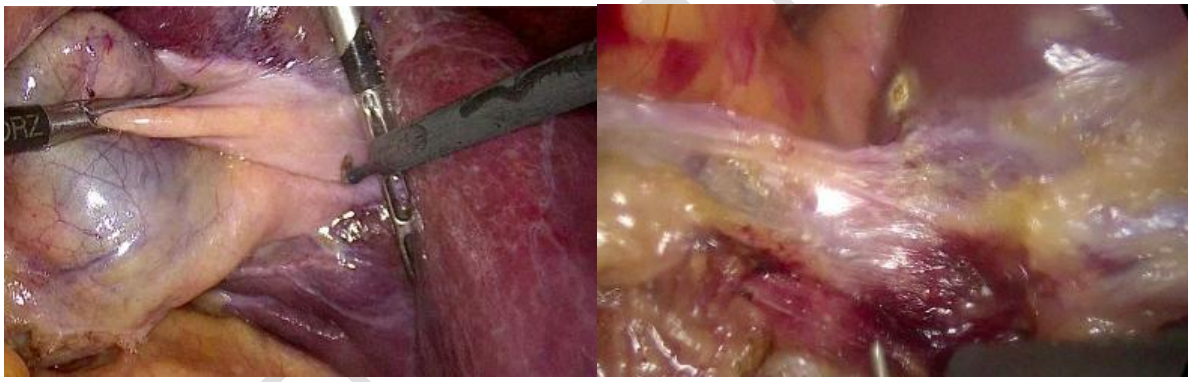

Figure 3: Laterograde cholecystectomy

Discussion:

In the absence of situs inversus, atypical GB localization is a rare anomaly of the biliary system, first reported by Hochstetter in 1886.[1,5]In the literature, this anomaly has been reported, mainly in Japan, with an incidence of 0.1 to 1.2%.[3,4,6,7]With the advancement of imaging techniques, atypical GB localization associated or not with RSLT,
usually accompanied by abnormal intrahepatic portal venous branching is increasingly reported.[1] It is accepted that for a diagnosis of LSGB, it must be located not only to the left of LT, but also below the surface of the left liver where the main middle hepatic vein passes clearly to the right of GB, and LT itself must have originated from the left PV.[2 6]

During embryological development, with atrophy of the RSLT in some individuals, the left-sided LT becomes dominant and causes the anatomical localization of the umbilical part of the PV in the left liver. Therefore, in the case of RSLT, the GB was located at its normal site but located to the left of LT and, therefore, was diagnosed according to the conventional definition as left-sided. A recent and careful anatomical study on this anomaly has already proven both the normoposition of the gallbladder and the abnormal connection of the round ligament to the right paramedian portal pedicle.[8] Therefore, we propose to name this anomaly as an RSLT, and not as an LSGB.[1,3-5]

Angiographic examination of RSLT patients usually shows portal vein abnormality, mainly one of the trifurcation types in which PV, after the first posterior branch, forms a trunk giving the left and right anterior PV. The right anterior PV joins LT.[1,6] .Although preoperative understanding of RSLT and associated anomalies is usually possible with detailed imaging in major surgeries, it is very difficult to show their presence by routine ultrasound used for cholelithiasis as in our case.[3,5]

Laparoscopic cholecystectomy with standard port sites with LT elevator can be performed as in our case, but more medial positioning of the GB retraction port and placement of the right operating port to the left of the midline are suggested for laparoscopic GB removal in RSLT.[1,9]Complete dissection of Calot's triangle can allow safe performance of the operation laparoscopically. In selective cases, intraoperative cholangiography, antegrade GB dissection, or conversion to open operation help to safely manage unpredictable GB confluence into the common bile duct.[5]

conclusion

In conclusion, it is shown that the presence of LT on the right side causes GB to localize to the left but at its normal site. Therefore, it is proposed to name this anomaly RSLT. As a rare anomaly of the biliary system, it should be studied in detail because of its association with abnormal intrahepatic portal venous branching. During surgical procedures such as laparoscopic cholecystectomy and hepatectomy, especially with living donor transplantation, knowledge of RSLT helps the surgeon to avoid iatrogenic injuries, especially to the portal venous system.

References

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