



Case Report

## Intrahepatic Subcapsular Hematoma - Revisiting a Rare Complication

Khuroo S<sup>1\*</sup>@, Prabhu RY<sup>1\*\*</sup>, Chaudhari V<sup>1\*</sup>, Kantharia CV<sup>1\*\*\*</sup>, Supe AN<sup>2#</sup>

\*Registrar GI Surgery; \*\*Asst Professor GI Surgery; \*\*\*Professor & Head GI Surgery; #Professor GI Surgery;

<sup>1</sup>KEM Hospital & Seth GS Medical College, Mumbai

<sup>2</sup>LTM Hospital & Medical College, Mumbai.

@Correspondence Email: skhuroo@gmail.com

Received: 09/05/2013

Revised: 18/06/2013

Accepted: 25/06/2013

### ABSTRACT

Development of a subcapsular liver hematoma after laparoscopic cholecystectomy is an infrequent complication and rarely reported. Fourteen cases have been published with different etiologies including use of NSAID's like Ketorolac during & after surgery, hemangiomas or small iatrogenic lesions aggravated by administration of ketorolac, coagulation dysfunction, traction injuries and pseudoaneurysms associated with cholecystectomy. We discuss one such case of Intrahepatic Subcapsular Hematoma following laparoscopic cholecystectomy, managed conservatively.

**Key Words:** Laparoscopic cholecystectomy, Intrahepatic subcapsular hematoma (ISH)

### INTRODUCTION

Laparoscopic cholecystectomy (LC) is a safe and considered gold standard procedure for benign cholelithiasis. Postoperative bleeding is an uncommon complication of LC. Subcapsular hematoma after laparoscopic cholecystectomy is a rare complication and a high index of suspicion is required to diagnose post-LC ISH.

### CASE REPORT

A 65 year female with no medical morbidity was admitted for elective LC for symptomatic gall stones. Patient developed mild acute pancreatitis one day prior to surgery and was managed

conservatively. Her Serum amylase was 2701 IU/L and USG showed bulky heterogenous pancreas without peripancreatic fluid. CT scan abdomen was done after 72 hours for evaluation (Fig 1). Patient was taken up for surgery after pancreatitis settled. Patient underwent uneventful laparoscopic cholecystectomy. Patient developed severe pain abdomen on Postoperative day 2 associated with vomiting. A clinical suspicion of recurrent pancreatitis was made and patient was kept under observation. Patient continued to have pain and vomiting. Her postoperative investigations revealed Hb 6.9, WBC 12,500, Normal LFTs, Serum Amylase

54.99 IU/L and CRP 33.18. USG revealed a subcapsular collection in liver. A CECT abdomen documented 19.8 x 13 x 6.4 cm subcapsular heterogenous collection (HU 10 – 65) without any free fluid in abdomen (Fig.2). Patient was managed

conservatively and she responded well. Her repeat investigations revealed Hb 7.2, WBC 13,300, and Normal LFTs. Repeat USG showed regression of subcapsular collection – 14 x 5.5 x 5.4 cm.

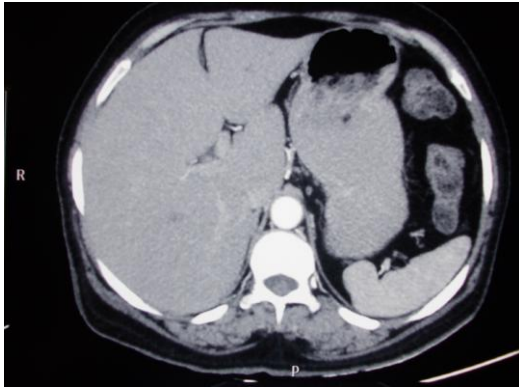


Fig.1 Pre operative CT Scan of patient.

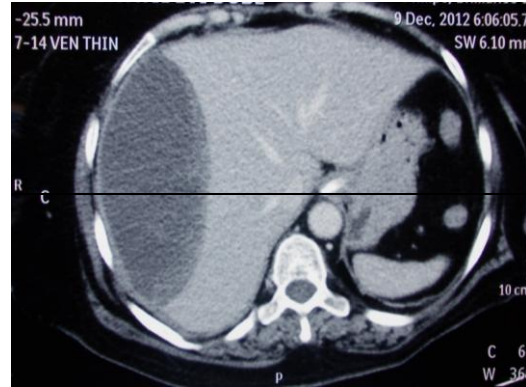


Fig. 2 Post Op CT Scan Abdomen showing ISH.

## DISCUSSION

LC is the choice of treatment for treatment of uncomplicated cholelithiasis.<sup>[1]</sup> The operation is not completely risk free, some incidents and complications being more frequent than with open cholecystectomy. Postoperative hemorrhagic complications of LC are uncommon, and if bleeding does occur, it usually results in hemoperitoneum or an intra-abdominal collection. Development of an ISH without intraperitoneal bleed is unusual. Postoperative bleeding most commonly occurs at the gallbladder fossa, abdominal wall puncture site, the cystic artery and the falciform ligament.

A literature search on ISH without hemoperitoneum revealed 14 cases and the postulated identifiable causes were:

1. Administration of Ketorolac used for perioperative analgesia which prolongs bleeding time through its effects on thromboxane production & platelet aggregation and may possibly aggravate some minor subcapsular bleeding induced by liver retraction.<sup>[2,3]</sup>

2. Excessive bending and wrinkling of the liver capsule during retraction and dissection of gall bladder.<sup>[4,5]</sup>
3. Secondary to leakage from an intrahepatic pseudoaneurysm.<sup>[6]</sup>
4. Injury to preoperatively unidentified intrahepatic hemangioma as a source of bleeding.<sup>[7]</sup>
5. Injury to hepatic parenchyma by guidewire used during ERCP.<sup>[8]</sup>
6. Small tears of hepatic capsule after traction to gall bladder, puncture of liver with trocar and parenchymal injury while excision of gall bladder.<sup>[4]</sup>
7. Presence of circulating heparin like anticoagulant observed in some hematological disorders like Multiple myeloma, T-prolymphocytic leukemia could lead to bleeding after small aggressive procedures.<sup>[9]</sup>

Patients with ISH after LC mostly complain of abdominal pain or discomfort, vomiting, tachycardia, hypotension and Dyspnea.<sup>[10]</sup> A decrease in hemoglobin in most patients is a usual finding <sup>[2-4,7,9,11,12]</sup>

and deranged liver function tests may be present.

Conservative management is followed if the ISH is not accompanied with rupture, the hematoma is small, and patient is stable and asymptomatic.<sup>[13]</sup> US/CT guided drainage can be done for patients with persistent abdominal pain, and surgical intervention may be necessary if patients present with shock accompanied with rupture.<sup>[3,5,6]</sup> Decision to follow a conservative treatment should involve clinical monitoring. Percutaneous drainage can be safely done in infected hematomas and selective embolisation should be attempted first if there are signs of active bleed.<sup>[13]</sup>

The present patient however did not show any underlying etiology or any pre operative bleeding diathesis. She had received postoperative Diclofenac injection as pain killer. In view of her hemodynamic stability and non expanding hematoma we successfully managed her conservatively.

## CONCLUSION

In conclusion, LC remains a very safe application for symptomatic uncomplicated cholelithiasis with low morbidity and mortality. However ISH is a rare complication of LC which should be considered in patients with persistent pain abdomen, vomiting, hypotension, tachycardia, dyspnea and unexpected postoperative signs & symptoms. A high index of suspicion is needed in diagnosis of post laparoscopic cholecystectomy ISH. Decision to follow conservative treatment after radiological confirmation should include close clinical & investigative monitoring. Symptomatic patients can be treated using minimally invasive procedures like US/CT guided aspiration, angiographic embolisation or surgical exploration.

## REFERENCES

1. Navez B, Mutter D, Russier Y, Vix M, Jamali F, Lipski D et al. Safety of laparoscopic approach for acute cholecystitis: retrospective study of 609 cases. *World J Surg* 2001; 25(10):1352-1356
2. Erstad BL, Rappaport WD. Subcapsular hematoma after laparoscopic cholecystectomy, associated with ketorolac administration. *Pharmacotherapy* 1994; 14:613-615
3. Vuilliemier H, Halkic N. Ruptured subcapsular hematoma after laparoscopic cholecystectomy attributed to ketorolac – induced coagulopathy. *Surg Endosc* 2003; 17(4):659
4. Fusco MA, Scout TE, Pauluzzi MW. Traction injury to the liver during laparoscopic cholecystectomy. *Surg Laparosc Endosc* 1994; 6:454-456
5. Alexander HC. Two unusual hemorrhagic complications during laparoscopic cholecystectomy. *Surg Laparosc Endosc* 1993; 3:346-348.
6. Chang WC, Chen MJ, Shih SC, Chang WH et al. Hepatic subcapsular hematoma secondary to intrahepatic pseudoaneurysm following cholecystectomy. *Dig Dis Sci* 2007; 52:3303-3306
7. Pietra N, Sarli L, Costi R, Violo V. Intrahepatic subcapsular hematoma. A rare postoperative complication of laparoscopic cholecystectomy. *Surg Laparosc Endosc* 1998; 8:304-307
8. Ortega DP, Fernandez LR, Garcia SJ et al. Liver hematoma following endoscopic retrograde cholangiopancreatography. *Surg Endosc* 2000; 14:767
9. Shetty GS, Falconer JS, Benyounes H. Subcapsular hematoma of liver after laparoscopic cholecystectomy.

- J Laparoendosc Adv Surg Tech A* 2005; 15(1):48-50
10. Okumas M, Ezberci F, K. *Journal of Clinical Medicine Research* 2011; 3(5):262-264
  11. Law CW, Ng CLL. Intrahepatic subcapsular hematoma complicating laparoscopic cholecystectomy. *Jummec* 2008; 11(2):83-85
  12. Bhandarkar DS, Katara AN, Shah RS. Intrahepatic subcapsular hematoma complicating laparoscopic cholecystectomy. *Surg Endosc* 2004; 18(5):868-870
  13. Fang JF, Chen RJ, Wong WC, Lin BC et al. Classification and treatment of pooling of contrast material on CT scan of blunt hepatic trauma. *J Trauma* 2000; 49(6):1083-1088
  14. Steve MM, Reekers JA, Dwass BJ. Delayed intrahepatic subcapsular hematoma after laparoscopic cholecystectomy. *Clinical Imaging* 2012; 36(5):629-631.

How to cite this article: Khuroo S, Prabhu RY, Chaudhari V et. al. Intrahepatic subcapsular hematoma - revisiting a rare complication. *Int J Health Sci Res.* 2013;3(10):154-157.

\*\*\*\*\*