

Single Incision Laparoscopic Cholecystectomy
in Situs Inversus Totalis:
Improved ergonomics in Modified Lithotomy
Position

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Introduction

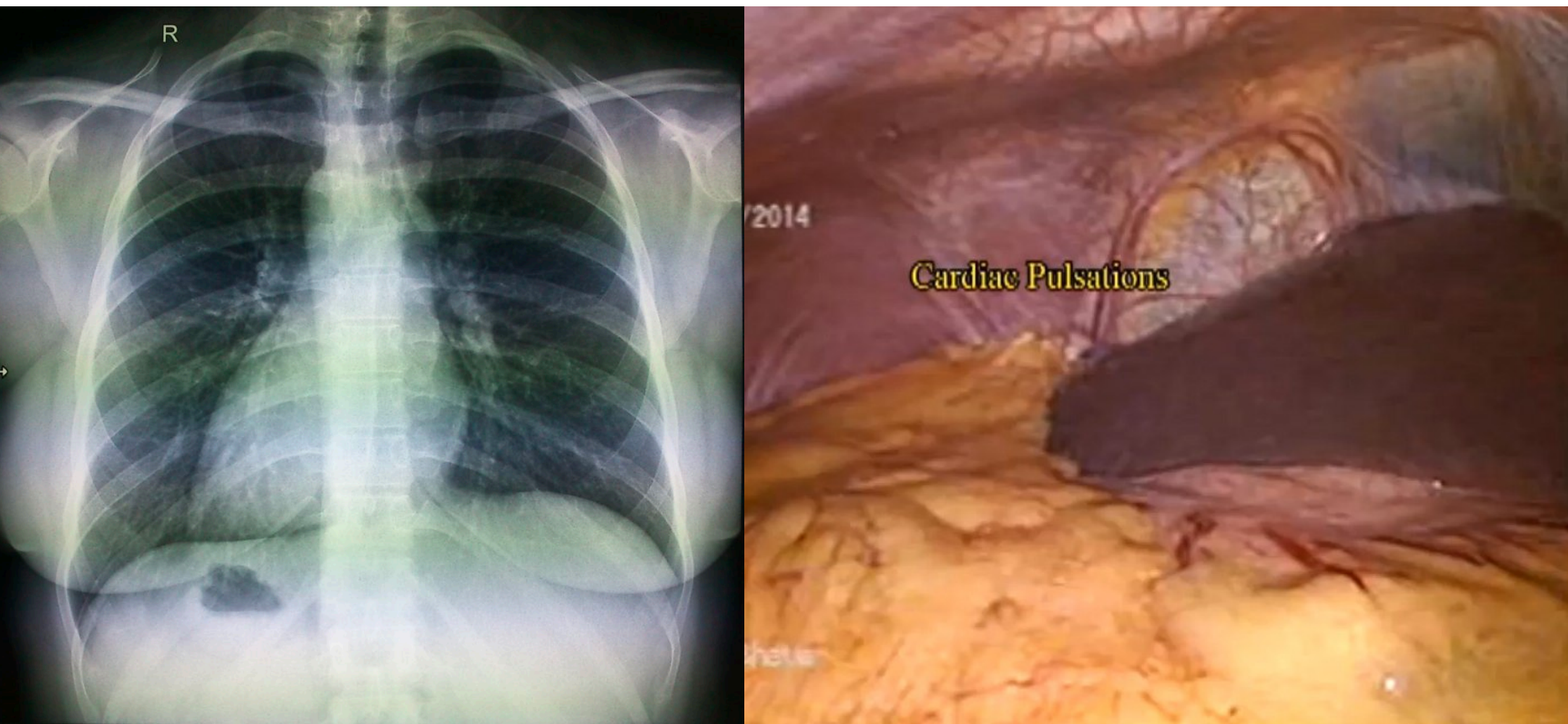
Situs Inversus (SI), a rare autosomal recessive congenital anomaly, is described as the mirror-image transposition of the internal organs. The incidence varies from 1 in 5000 to 1 in 20000 live births.

In an effort to reduce post-operative pain and improve the cosmesis, single-incision laparoscopic cholecystectomy through an intra-umbilical incision ensures a virtually “scarless” surgery.

We report a case of successful single-incision laparoscopic cholecystectomy for a patient with situs inversus totalis and describe the challenges and solutions. Laparoscopic cholecystectomy in these patients is technically more demanding and needs a visual reorientation of the operative field. We describe the role of modified lithotomy position and minilap grasper aiding in easier orientation of anatomy and retraction of the gallbladder.

Case Presentation

A 34 years old female presented with a history of pain in the left hypochondrium. USG whole abdomen revealed liver on the left with gallbladder partially distended and showed two calculi: 10 mm and 12 mm. Spleen and stomach were noted on the right. A pre-operative chest X-ray showed dextrocardia.



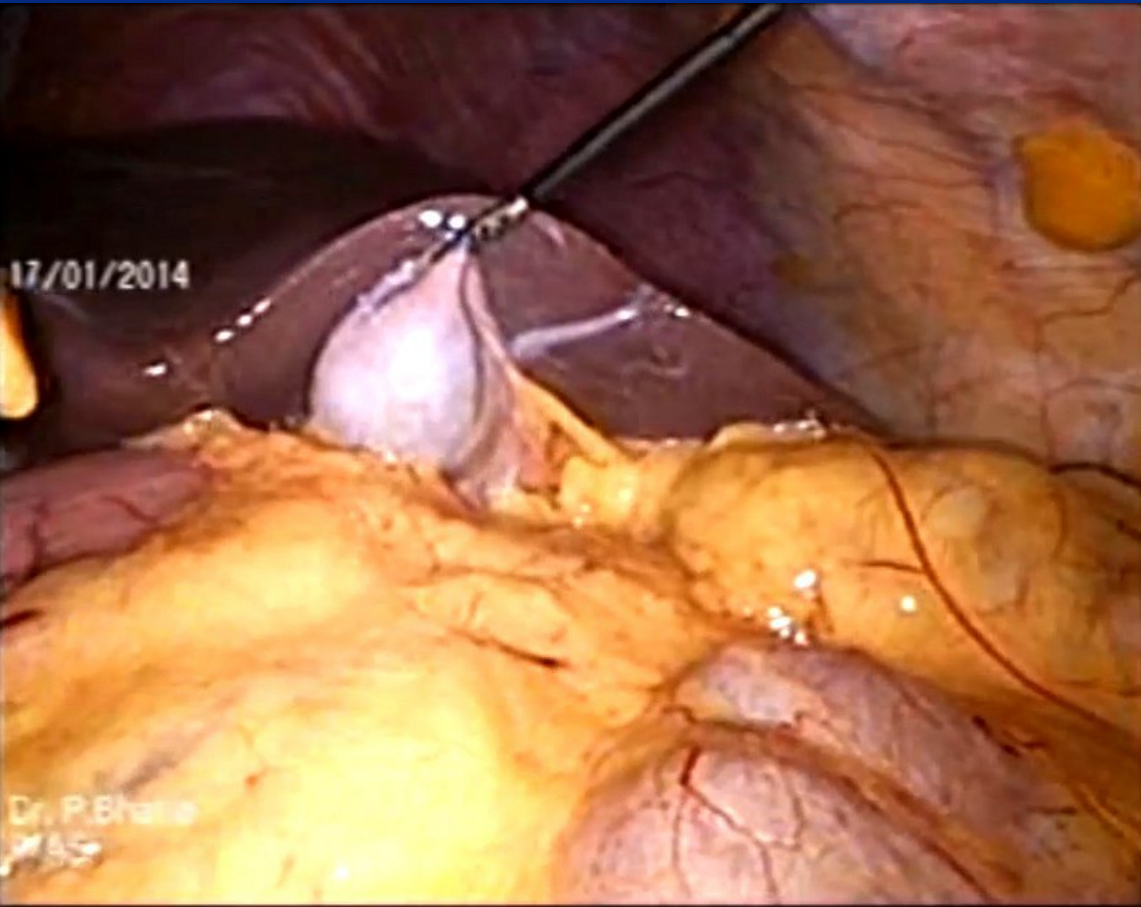
Technique & Discussion

The patient was positioned in modified lithotomy position. The surgeon stood in between the legs of the patient, with the assistant on the patient’s left. The monitor was placed at the head end of the patient. Instead of conventional instruments, long bariatric length (45 cm) instruments, 35 cm 0º and 30º 10mm scopes were used.

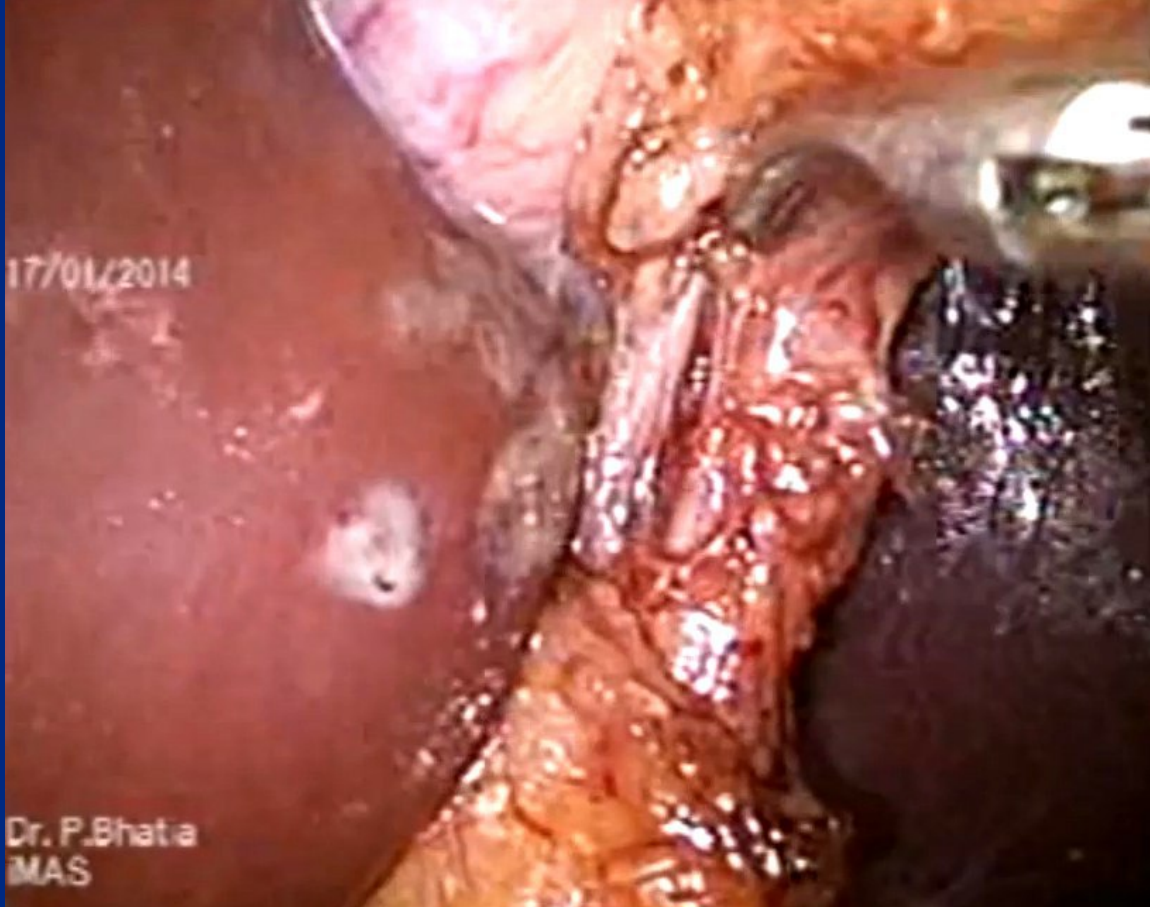
Benefits of single-incision reduced-port laparoscopic
cholecystectomy can be offered to even challenging
situations like situs inversus.



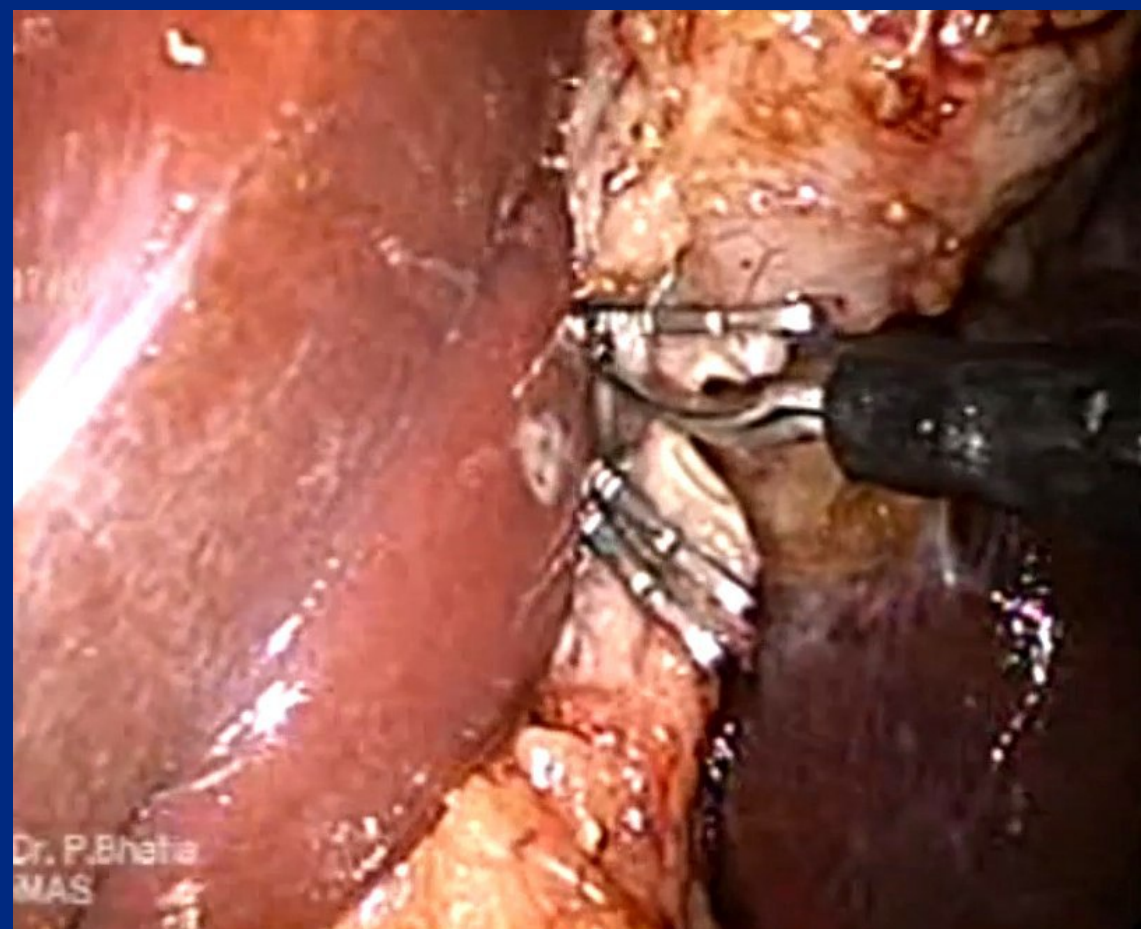
“SITUP” Technique: Single Incision Two Umbilical Ports



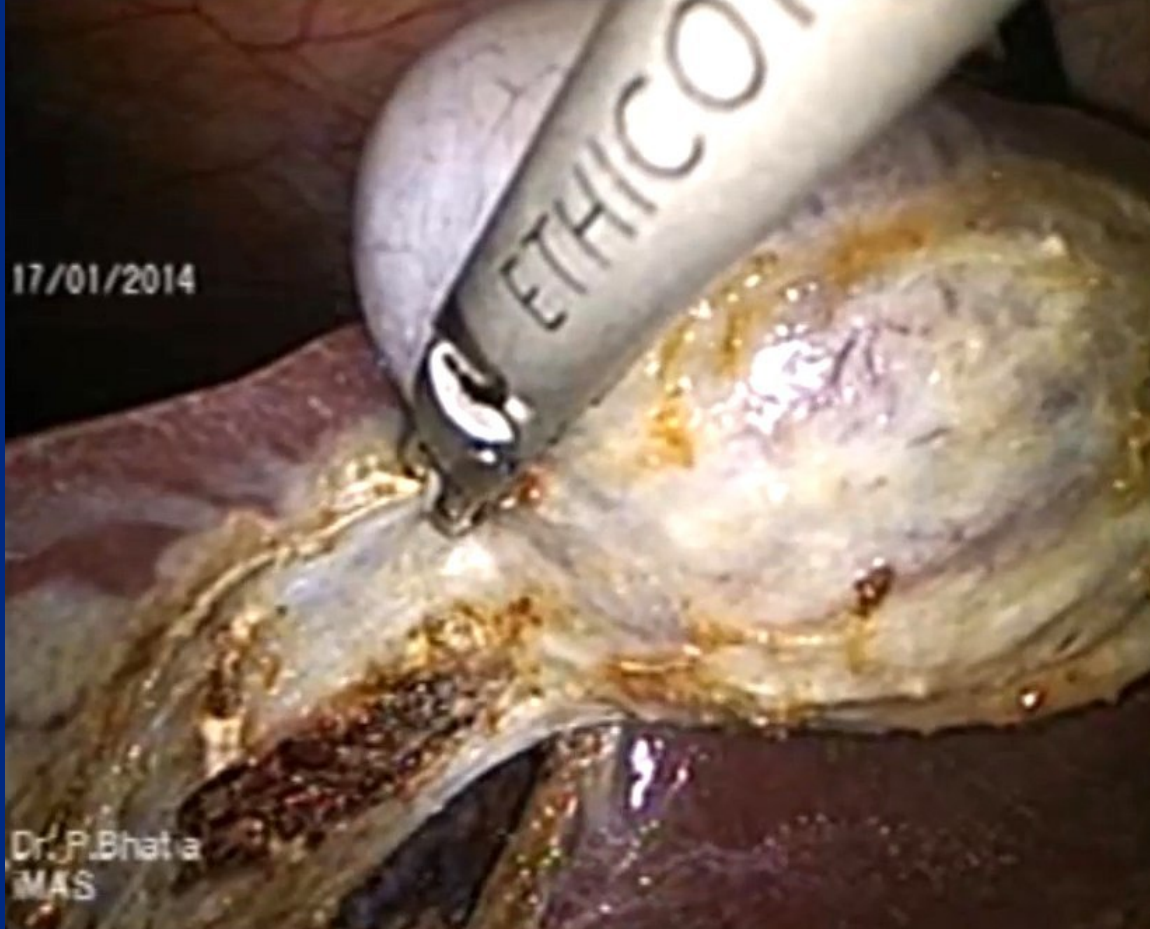
Gallbladder seen on Left side



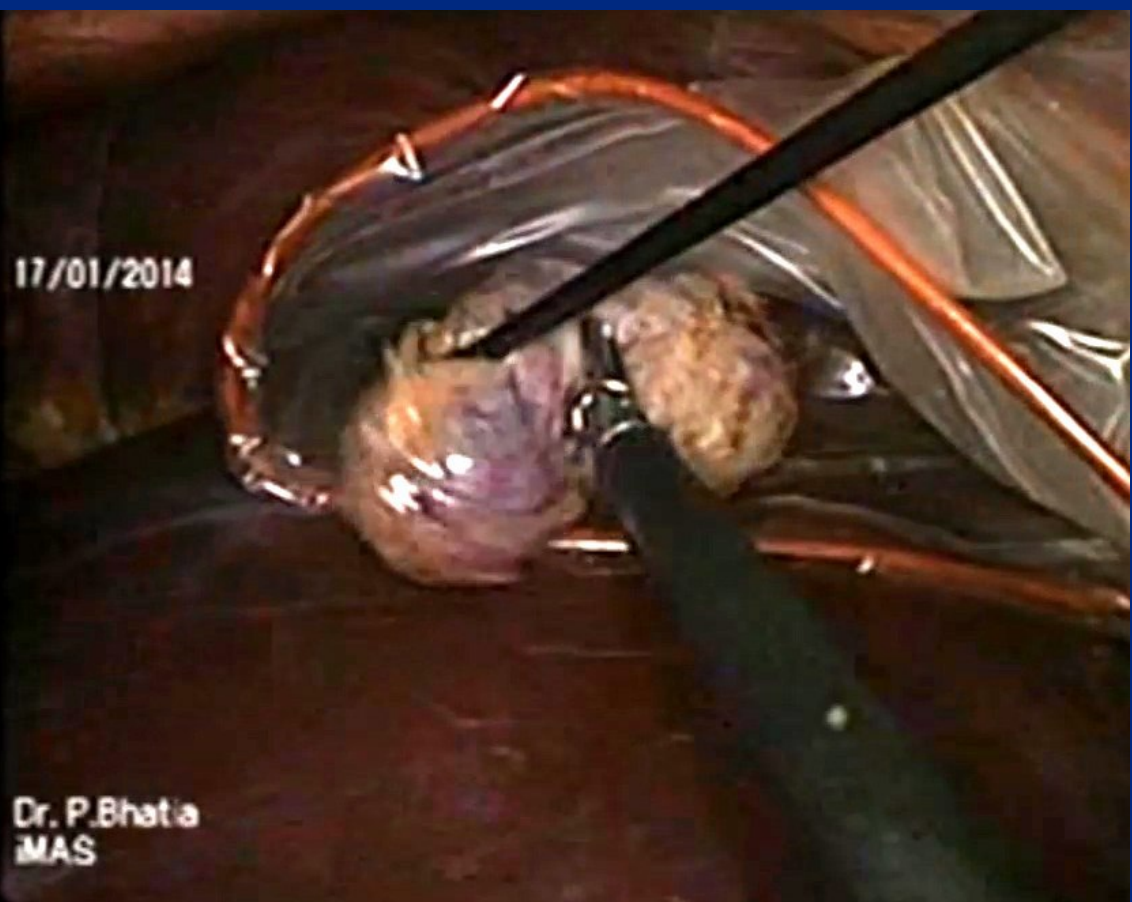
Calot’s Triangle dissection
maintaining Critical view of safety



Cystic artery and duct clipped
and cut



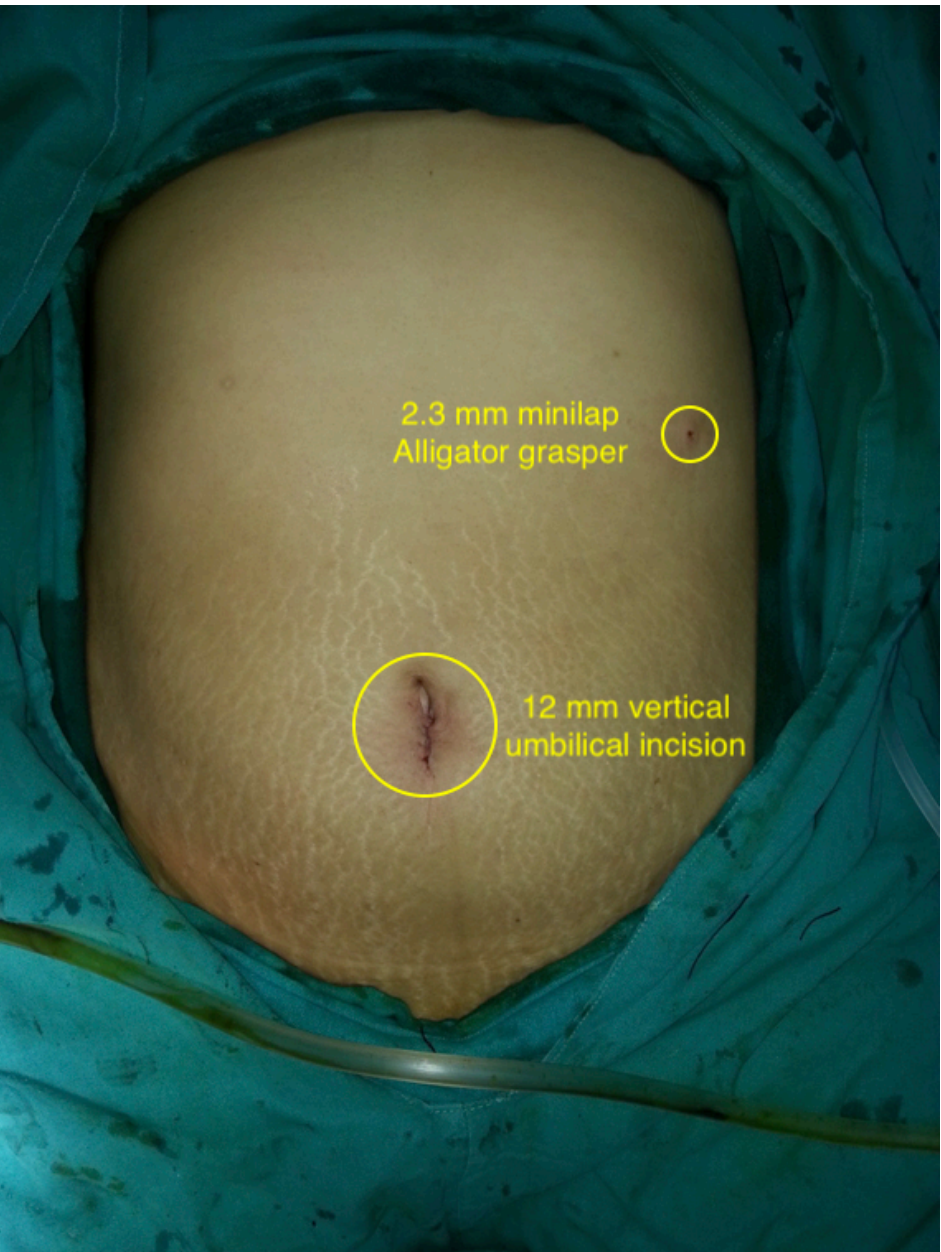
Gallbladder dissected off the
cystic plate



Specimen in an endobag
removed from Umbilicus



After reaching a pressure of 15 mm Hg from insufflation with Veress needle, a 12 mm Optiview® (Endopath® XCEL™) trocar was placed under vision. Next, a 5 mm low-profile threaded LiNa trocar was inserted through the same 12 mm vertical intra-umbilical incision. It was inserted first horizontally then vertically to prevent sword fighting.



A 2.3 mm MiniLap® Alligator Grasper was passed through the left hypochondrium (1 fingerbreadth below subcostal margin) keeping fundus position in mind. This allowed a biplanar manipulation and rotational retraction of the gallbladder. Surgeon in between the legs aided in providing tangential position of the grasper that eased the posterior dissection. Demonstrating the critical view of safety, cystic duct and artery were clipped and cut. The gallbladder was removed in an endobag from the 12 mm port after switching to a 5 mm 30º scope. Utmost care was taken to close 12 mm intra-umbilical incision to prevent hernia. In conclusion, the benefits of single-incision reduced-port laparoscopic cholecystectomy can be offered to even challenging situations like situs inversus.

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