



CASE REPORT

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Massive right hemothorax as the source of hemorrhagic shock after laparoscopic cholecystectomy - case report of a rare intraoperative complication

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Abstract

A 62-year old man was referred to our institution in hemorrhagic shock after a laparoscopic cholecystectomy for acute cholecystitis, performed at an outside hospital. A chest X-ray revealed a right-sided massive pleural effusion. Urgent surgical exploration was performed through a video-assisted mini-thoracotomy which revealed active bleeding from a pleural adherence. Successful hemostasis was achieved intraoperatively and the patient had an uneventful recovery. In absence of intra-abdominal hemorrhage, a hemothorax should be considered as a potential source of major bleeding in patients who develop symptoms of hypovolemia after laparoscopic surgery.

Background

Although laparoscopic cholecistectomy (LC) is a well-established surgical procedure, a high index of suspicion should be maintained towards both surgical (injury during blind trocar insertion, unrecognized diaphragmatic lesions) and anaesthetic complications (gas embolism, extraperitoneal insufflation and surgical emphysema, pneumothorax and pneumomediastinum) [1]. A case of hemothorax complicating LC is here reported with no evident technical intra-operative problems nor abdominal complications.

Case presentation

A 62-yrs old male patient was referred to our Institution due to massive right pleural effusion with severe hypovolemia at the end of VLC.

The procedure, planned for cholelithiasis, was performed in a peripheral hospital in about 2 hours and half, due to the presence of severe cholecistitis with empyema and massive intraperitoneal visceral adhesions. During the intervention pneumoperitoneum was kept

constant at 12 cmH₂O and no increase of the pressure was needed. Intra-operative bleeding was about 300 cc because of a difficult isolation of the fellea from the liver, but it was easily controlled by argon beam coagulator. No impairment of respiratory parameters was observed by the anaesthesiologist.

At the end of procedure, before evacuation of pneumoperitoneum, the patient developed a hypotension which was initially responsive to fluid administration, but quickly deteriorated after the weaning resulting in severe hypovolemic shock with worsening of respiratory parameters (tidal volumes, peak pressures and blood gases).

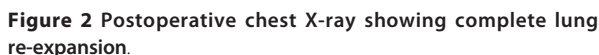
A chest X-ray performed in the operating theatre revealed a white right hemithorax, suggestive for massive peri-operative pleural effusion, that was soon confirmed by a contrast enhanced chest CT-scan (Figure 1A-B).

Considering the clinical and radiological findings, we decided to perform urgent surgical exploration through right video-assisted muscle-sparing lateral mini-thoracotomy in the 7th intercostal space. A total amount of 2400 of fluid and clotted blood was evacuated from pleural cavity, and active bleeding became evident from a vascularized adherence between parietal pleural and right diaphragm located nearby anterior costophrenic

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images. A copy of the written consent is available for review by the Editor-in-Chief of this journal.

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Contributions

RC performed thoracic surgical procedure and wrote the paper, PM and RT participated in surgical procedure, TS and BF reviewed literature, BE and SG reviewed the paper. All Authors read and approved the final manuscript.

Competing interests

The authors declare that they have no competing interests.

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