Asian Journal of Case Reports in Surgery

9(4): 11-13, 2021; Article no.AJCRS.68641

Exudative Ascites after Laparoscopic Cholecystectomy with Hysterectomy: Mystery Unsolved??

Pratik Biswas[1], Vishakha Kalikar[1*] and Roy Patankar[1]

[1]Department of Minimal Access Surgery, Zen Hospital, Mumbai, India.

Authors' contribution

This work was carried out in collaboration among all authors. Author PB wrote the first draft. Author VK managed the literature search. Author RP approved the final manuscript.

Article Information

Editor(s):
(1) Dr. Georgios Tsoulfas, Aristoteleion University of Thessaloniki, Greece.
Reviewers:
(1) Tsvetan Trichkov, Military Medical Academy, Bulgaria.
(2) Mohan Lal Khadia, Acharya Harihar Post Graduate Institute of Cancer (AHPGIC), India.
Complete Peer review History: http://www.sdiarticle4.com/review-history/68641

Case Study

Received 05 April 2021
Accepted 10 June 2021
Published 16 June 2021

ABSTRACT

Laparoscopic surgeries are known to have their own set of complications. We report the case of a middle-aged lady who developed ascites of unknown origin, immediately, following laparoscopic cholecystectomy and hysterectomy. Though most cases are attributed to unidentified bowel, biliary tree, urinary tract and lymphatic system injuries, after reviewing medical literature, we found a few case reports pointing towards allergic reaction to co_2, glutaraldehyde or electrocautery and formaldehyde being rare causes of ascites following laparoscopy.

Keywords: Ascites; cholecystectomy; hysterectomy; laparoscopic.

1. INTRODUCTION

The common complications following any laparoscopic procedure are either visceral or vessel injuries, followed by gas embolism and subcutaneous emphysema. The development of ascites not attributable to any cause, after a laparoscopic procedure is rare. We present a case of a middle-aged lady who developed exudative ascites of unknown origin after

**Corresponding author: E-mail: vish.kalikar@gmail.com;*

a laparoscopic cholecystectomy with hysterectomy.

2. CASE REPORT

A 45-year-old lady underwent laparoscopic cholecystectomy with hysterectomy for cholelithiasis and menorrhagia. She has no significant past medical or surgical history or known drug allergies. Pre-operative investigations were normal, including renal, liver and thyroid function tests. She has a history two full term normal deliveries. and she was deemed ASA grade 1 by the anaesthesiologists. Pre-operative COVID 19 Rt PCR was negative. The surgery was uneventful and the patient tolerated the procedure well. Post-surgery patient was started on liquids and soft diet. Her VAS pain score on pod 2 was 4. On post-operative day 4 she developed abdominal distention, pain and bilious vomiting. She was afebrile, hemodynamically stable, with mild abdominal distention and mild diffuse tenderness. She was transferred to our hospital on POD 5. Routine blood investigations and serum amylase/lipase were normal. Total leucocyte count was 11,000. ESR and CRP (value: 15) were raised. A CECT abdomen was done which showed ascites. No evidence of bowel injury. Diagnostic ascitic tapping was done. Fluid was clear, straw coloured without any foul smell. It was exudative with normal cell count and no RBcs. ADA and glucose levels were normal. SAAG level was 1.0. Since it is a low gradient SAAG, fluid is exudative. Ascitic fluid, aerobic, fungal and AFB culture didn't grow any organisms. Following which therapeutic tap was done and 2 litres fluid was drained. Patient was kept in the icu for observation for mild dyspnoea which got relieved after ascitic tapping. Repeat Covid 19 Rt Pcr swab was negative. HRCT chest was negative for COVID 19 or any other pathology. the patient was kept on supportive treatment and intravenous antibiotics as White cell count was high. She was started on low dose steroids, empirically from POD 6. Patient showed steady improvement to conservative management. Repeat ultrasonography of the abdomen showed minimal ascites. Patient was discharged on soft diet on day 10.

3. DISCUSSION

Our patient was is a rare case of post-operative ascites, which developed after uneventful laparoscopic cholecystectomy with hysterectomy.Medical grade carbon dioxide was used for the same. Fluid accumulation in the abdomen, after any surgery immediately raises concern towards a bowel, biliary, urinary, pancreatic, lymphatic injury or a spontaneous bacterial peritonitis. As the fluid was clear and imaging essentially ruled out a biliary, bowel or a chyle leak. Pancreatic ascites was ruled out as amylase and lipase levels were normal. Cultures were negative on the ascitic fluid. Literature search showed a few cases reporting such cases.

Wei Jieng et al reported 8 cases of the same in a span of 5 years post laparoscopic gynaecology procedures [1]. They were reported to have an allergic reaction to some substance used intra operatively, either a diathermy or glutaraldehyde use. Alberto et al. reported a case of post-laparoscopy ascites of unknown origin in a 31-year-old female which was probably a result of an allergic or an abnormal peritoneal reaction to the diathermy [2]. M. Feretis et al reported a case of unexplained ascites after laparoscopic appendicectomy [3]. In some studies, there is an allergic reaction of the peritoneum to methylene blue used to chromopertubation [4]. Though intra-venous antibiotics and supportive care remain the mainstay of treatment, usage of steroids is not a universal school of thought [5].

The only different entity that was found on keen questioning was that the previous surgeon used a formalin chamber to transport his hand instruments before sterilising them with glutaraldehyde. While we haven't found any references for the same, it could also contribute to the inflammatory reaction of the peritoneum.

4. CONCLUSION

Sterile ascites after laparoscopic surgery, though a rare complication, is an idiopathic or an inflammatory reaction of the peritoneum to commonly used laparoscopic factors like carbon dioxide, glutaraldehyde (used to sterilize laparoscopic instruments) and diathermy. However, it is essentially a diagnosis of exclusion which mandates a thorough work-up with co-ordinated clinical examination, laboratory investigations and radiological modalities. Once the diagnosis is established, as with our patient, it can be successfully managed conservatively without any significant long-term impact.

CONSENT AND ETHICAL APPROVAL

As per international standard or university standard guideline patients consent and ethical

approval has been collected and preserved by the authors.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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Peer-review history:
The peer review history for this paper can be accessed here:
http://www.sdiarticle4.com/review-history/68641