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Original Article

Ascites Post-Cesarean Section… Case Series

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ABSTRACT

Incidence of Caesarean section (CS) is rising due tomany reasons, which makes it one of the more common performed procedure. Common complications of this are hemorrhage, infection, pain, injury to bladder, bowel. Though severe complications are seen less frequently but as an obstetrician we need to have the skill set to diagnose it early and manage properly. Ascites is accumulation fluid in peritoneal cavity. Common causes are liver cirrhosis, malignancy, injury to bowel/bladder during surgery, vascular trauma, infection. Ascites after CS is very rare and very few cases have been reported. In this case series we are presenting 2 such cases of ascites after CS due to two different causes. One is Chylous ascites and other one is a case of appendicitis and each case was managed differently.

Key Words: *Ascites, post caesarean, Appendicitis*

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INTRODUCTION

Caesarean section is one of the most widely performed surgical procedure in obstetrics world-wide [1]. In 1990 the global LSCS rate was 7%, this has reached 21% by June 2021 with rates predicted to reach as high as 28.5% globally by 2030 [2].

While c-sections are done to improve parturition outcomes, this surgical intervention also carries some major and minor complications. The common complications are haemorrhage, pain, infections and injury to vital structure bowel, bladder and ureter intra operatively [3]. Ascites after caesarean section (LSCS) is an unusual finding and an extremely rare event which is not frequently reported as well.

Ascites is the accumulation of fluid in the peritoneal cavity. There are both benign and malignant aetiologies including liver failure, malignancy, pancreatitis, tuberculous &Chylous ascites [4].

While c-sections are done to improve parturition outcomes, this surgical intervention also carries accompanying risks. For example, it has been established that maternal morbidity is higher following a c-section compared with vaginal delivery.

The main causes for this higher morbidity are related to surgical or anaesthetic problems, puerperal infections, anti-biotic therapy, blood transfusions, increased length of hospital stay, length of convalescence and possible psycho- logical impacts (Baskett and McMillen 1981; Sachs et al. 1983; Danforth 1985). There is evidence to indicate that maternal mortality following c-sections is also higher than mortality following vaginal deliveries (Hall 1994)

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CASE 1

A 26 years old female, Para 2 Living 2 Abortion 1, was referred from a Hospital in Jalgaon withhistory of LSCS 4 days backwith feverfor2 days. On admission she had abdominal distension, breathlessness and fever with USG findings suggestive of gross ascites and CT scan suggestive of peritonitis and moderate pleural effusion. Antepartum and Intrapartum period was uneventful.

On examination patient was afebrile and vitals were stable. On Systemic examination air entry reduced bilaterally in lower zones and abdomen had diffuse tenderness with distension. Patient was admitted in Intensive Care Unit for further management and Physician reference was given. All routine investigations were carried out. Patient started with higher antibiotics and low-fat diet.

USG guided Ascitic tapping was performed and 1500 ml of **cloudy**, **milky yellowish white** of ascitic fluid was drained. On further evaluation ascitic fluid showed raised TLC count with negative Bile salts and bile pigments.

Biochemical analysis disclosed triglycerides 3474mg/dl; amylase and lipase were within normal range. ADA was raised. Microbiological cultures were negative. Cytological findings were Negative for malignancy. Fluid was Exudative in nature.

Vascular surgeon opinion taken and advised for Lymphangiographwhich was suggestive of focal outpouching along the posterior aspect of thoracic duct at approximately D6 vertebral body level with Moderate ascites with subtle omental fat stranding seen in anterior abdomen.

After 4 days patient again developed abdominal distension and repeat USG guided ascitic tapping was done. Around 800-900 ml of fluid was drained.

Patient was hemodynamically stable on day 6patient was shifted to ward and was monitored thoroughly. She was then discharged on D9 She didn't develop further ascites and is under regular follow up.

Figure 1: USG guided Ascitic tapping – Chylous Ascites

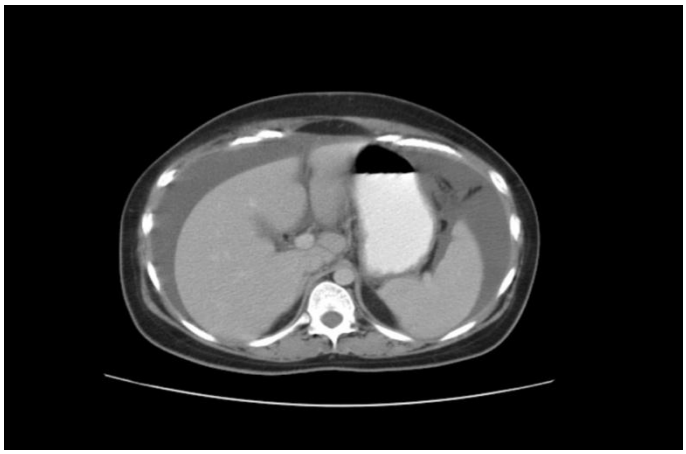

Figure 2: Free fluid surrounding liver and spleen demonstrated on CT abdomen and Pelvis

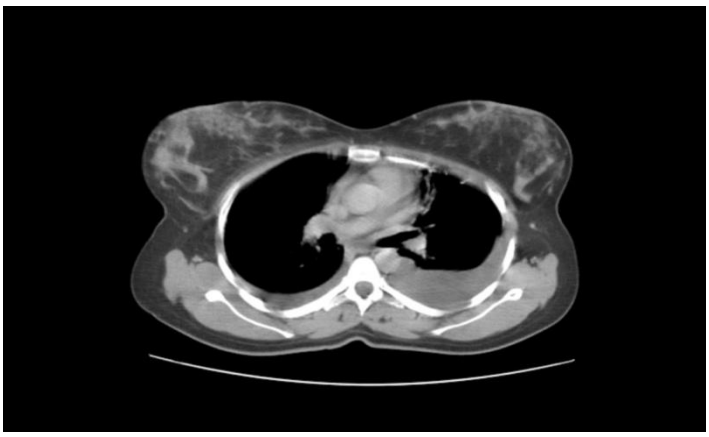

Figure 3: Bilateral Pleural Effusion on CECT

Figure 4: Errect Abdomen X-ray

CASE 2

30-year-old female, Para 2 Living 2 came to the casualty on post op day 7 of Elective LSCS with complaints of pain in abdomen with distension, constipation and 1 episode of fever (101° F). Ultrasonography suggested of **1000cc of fluid collection** with septae and internal echoes.

Patient was hemodynamically stable and her antenatal and intrapartum period was uneventful. On examination there was abdominal distension with mild tenderness. There was no guarding or rigidity. Emergency portable USG was repeated with the results being the same as in the previous scan.

With a provisional diagnosis of Post-partum Hemoperitoneum/Ascites, a decision was taken for Explorative Laparotomy and surgeon was kept on standby. On laparotomy 800 ml of purulent, thin fluid was drained and multiple pus pockets were seen. Bowel was seen adherent and enclosed in omentum with infective plaques, the **base of the appendix and caecum was found to be ruptured and necrosed.**

Hence an Appendicectomy with repair of caecal perforation was done**.** Two Abdominal drains were placed The Post-operative period was uneventful with no signs of sepsis. She received antibiotic course for 7 days. Abdominal drain was

removed on day 6. Patient was discharged on day 7 in stable condition. Patient followed up in opd after 4 days for suture removal and had no complain with bowel and bladder being normal.

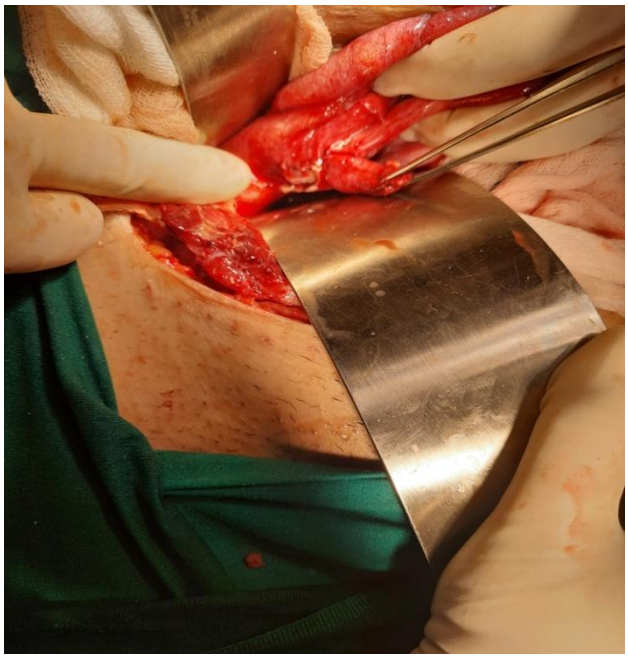

Figure 5:

Figure 6: Mild to Moderate fluid in pelvis with echogenic foci suggestive of Hemorrhagic fluid

DISCUSSION

Ascites is an abnormal accumulation of free fluid within the peritoneal cavity. Serious aetiologies of post-operative ascites are bowel and urinary tract injuries [5], but in this case, those were ruled out. Other causes of ascites include rise in portal venous pressure, hypoproteinaemia, peritoneal irritation, and lymphatic leak into the peritoneal cavity or fluid overload. In this case, there was no evident source of the ascites as the injury to bladder, intestines and any major vessel is ruled out. Imaging also ruled out any malignancy or pancreatitis [6]. The possibility of an inflammatory peritoneal reaction needs to be kept in mind. However, inflammatory peritoneal reaction can be a cause of post op ascites in the literature. Patient did not have pre-eclampsia, multiple pregnancy or any obstetric complication [7]. In addition, there was no history suggestive of underlying tuberculosis [8].

Chylous ascites is usually due to the obstruction of lymphatic channels and leakage of lymphatic fluid into the peritoneal cavity via a fistula from dilated retroperitoneal lymphatics [9]. Chylous fluid is high in triglyceride content and the diagnosis is usually made when the concentration is greater than 200 mg/dL.

According to Thompson, et al. only 6 other cases of Chylous ascites post caesarean section delivery have been reported in addition to their case report when they performed a literature review in 2015 [10].

Malignant tumoralso accounts for Chylousasciteswith lymphoma beingthe most common. Other causes may be Mesenteric mass, cirrhosis of liver, abdominal trauma, infections and lymphatic filariasis [9]. In pregnancy compression of lymphatics by the gravid uterus, trauma to the lymphatics during surgery are possible mechanism [10]. Patient was managed with conservatively andher ascitesgradually resolved over a period of a week and she is in regular follow up with no development of further ascites.

Appendicitis is one of the commonest non urogenital causes of puerperal morbidity [11]. It presents diagnostic dilemma for both obstetricians and surgeons dur to overlapping of symptoms. In a series of 52 cases of appendicitis in pregnancy by al Mulhim et al. [12], 3 patients (6%) presented in the puerperium. In another series by To WW et al. [13] 4 out of 31 patients (13%) presented with appendicitis in puerperium.

Usually In pregnancy, appendix gets displaced and gets separated from peritoneum leading to decreased pain perception and localization [14]. Clinical examination is also difficult due to decreased muscle tone and involuting uterus with slight increase in WBC in pregnancy makes the diagnosis even more difficult [15]. Release of inflammatory mediators during child birth aggravates underlying inflammation leading toacute episode. Altered physiology along with delayed diagnosis in puerperium is associated with a greater risk of perforation peritonitis, sepsis and mortality [11, 16].

USG helps to rule out other causes and CT scan is considered ideal for diagnosis in postpartum period. Treatment option to be decided based on patient clinical condition, imaging and surgeon opinion. In our case as preoperative diagnosis was not certain we did laparotomy and found out appendicitis with caecal perforation which is very rare in puerperium period.

CONCLUSION

Post-operative ascites is a rare complication of LSCS. Detailed history and thorough investigation to be done to ruleout possibility of an intraperitoneal bleed or aniatrogenic injury to a bladder, intestine during the caesarean section. However, if no definitive cause for the fluid accumulation can be identified, the most likely explanation is idiopathic allergic or inflammatory reaction of the peritoneum. Sometimes some surgical condition also becomes acute due to the inflammatory reaction and stress of delivery and LSCS. Counselling of pregnant women and keeping a close watch in post operative period is very important.

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