

Post caesarean excessive serous discharge from drain- causes and management

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Abstract

Ascites is abnormal accumulation of fluids in the peritoneal cavity. There may be different types of ascites including pancreatic, bilious, malignant, chylous and tubercular. Aetiology for ascites in pregnancy can be underlying systemic diseases which gets aggravated in pregnancy or may be related to conditions especially noticed during pregnancy such as in acute fatty liver disease in pregnancy[15]; pre-eclampsia ; eclampsia; HELLP syndrome [1-3,16]

Post-operative fluid collection is very rare complication of caesarean delivery. Excluding causes such as bleeding or injury to bowel or bladder should be prompt to avoid any devastating condition of patient. Prophylactic intra peritoneal drain insertion following caesarean especially associated with complicated surgery continues to be a controversial subject. A dictum when in doubt put drain is being followed by

many surgeons. Drain placement can provide an early sign of active intraperitoneal bleed [10]. Drain can aggravate discomfort [11]. In many studies it has been noted putting intraperitoneal drain leading to some adverse outcomes as worst as fallopian tube herniation, omental, gall bladder and gut herniation through the drain tube [4-9]

Here we are reporting a case in which intra peritoneal drain has been placed during caesarean section in view of HELLP syndrome and oozing intraoperatively due to risk of intra peritoneal bleed. After 24 hrs of caesarean section there was only 100ml serous discharge in drain but on POD2 (after 48 hours of caesarean) the discharge (serous) in drain increases exponentially to 600ml in a day and then on day 3 more than 1000ml. There was a cord like structure noted in the drain tube. Cord like material and ascitic fluid sent for biochemical examination which was suggestive of cord like material

as fibrin thread and ascitic fluid of transudative in nature. Ascitic fluid was of iatrogenic aetiology after ruling out other possible primary causes which was further resolved after removing intra peritoneal drain suggestive of probable inflammatory or allergic reaction of peritoneum leading to ascites.

Keywords: excessive ascites, intra peritoneal drain use, complications regarding use of drain

Introduction

Accumulation of ascitic fluid in the peritoneal cavity has been observed at caesarean section delivery both in

normal pregnancies and pregnancies complicated by pre-eclampsia, but there are very few reports of massive ascites as a complication of severe preeclampsia.

Differential diagnosis should always keep in mind especially in patients with history of chronic liver disease, nephrotic syndrome, autoimmune disease, tuberculosis in past and history of hypertensive disorder in previous pregnancy. Some differential diagnosis are given in table no 1.1 presenting with ascites in pregnancy

		Clinical features	Lab criteria	Ascites
1.	Hypertensive disorder (eclampsia, pre-eclampsia, hellp synd)	Seizures High BP records Right upper quadrant pain Nausea Vomiting Abdominal pain	Raised AST LDH ALP Low platelets count Proteinuria	21.6/1000 women has ascites[wong study] [12] 8/1000 acc. to vijaynath et al[13]
2.	Bacterial/fungal/parasitic	Fever Pain in abdomen Abdominal distension	Ascitic fluid Wbcs->= 500/cumm SAAG < 1.1 g/dl ↑LDH ↓Glucose Bacteria +	Mild to severe
3.	Tubercular	Anorexia Fever Pain in abdomen Abdominal distension	total protein > 2.5g/dl SAAG < 1.1 ↑ADA AFB +	Ascites develops in almost all cases
4.	Cirrhotic/Portal hypertension ¹⁴	Esophageal bleed Abdominal distension Pph	Total protein <2.5g/dl SAAG >1.1 g/dl LDH ↓	Ascites develops in 3 rd stage of cirrhosis
5.	Nephrotic syndrome	Anasarca Ascites High bp records	Proteinuria >3gm/day Hypoalbuminaemia <30g/l Hypercholestromaemia Lipiduria	Ascitis develops in later stages when significant hypoproteinamia occurs

Table 1: Differential diagnosis of ascites in pregnancy

Other cause includes acute fatty liver disease in pregnancy[15],malignancy (ovarian, breast ca, oesophageal ca, primary peritoneal ca, lung ca, pancreatic ca), chylous ascites, meig's syndrome, SLE , APS , iatrogenic may be due to irritation or allergic reaction of peritoneum¹⁷ sometimes ascites me be confused with extravasation of urine in bladder injury post operatively. In post-operative cases ascites may further complicated with peritonitis, drain tube induced peritonitis, and iatrogenic cause. Presentation of above given underlying causes may present early in pregnancy or through in any trimester for which proper work up and aetiologies should be ruled out.

Accumulation of ascitic fluid in the peritoneal cavity has been observed at cesarean section delivery in both normal pregnancies and pregnancies complicated by pre-eclampsia, but there are very few reports of massive ascites as a complication of severe preeclampsia. 5-10% cases of ascites in association with hellp syndrome has been reported.

Clinical Presentation

A 24 years old married female un-booked primigravida with period of gestation 33wks 1 day with decreased fetal heart rate with antepartum haemorrhage. Patient was being referred from private institute in view of uncontrolled high BP records. On admission patient was conscious, oriented to time place and person complaining of severe headache, her bp record was 200/134 mm of mercury , pr 90 bpm, spo2 98% on room air. Stat dose of Injection labetalol and loading dose of MgSO₄ was given. Per abdomen examination demonstrated tense and tender abdomen, fundal height corresponding to 34 wks. of gestation. Fhs + 124 bpm. On per vaginum examination cervix was posterior, firm in consistency, os 2 cms dilated and uneffaced, bag of membrane present following which artificial rupture of

membrane was done in view of suspected abruption following which blood stained liquor was drained. Abruption was confirmed by bed side usg. Laboratory parameters were Hb : 7.8 gm/dl , tlc 14.7 /mm³ , plt 120 X 1000/cumm , creatinine 2.09, ldh: 900, sgot/sgpt 104/110 u/l, bilirubin total/bilirubin direct 0.4/0.3 mg/dl, Alkaline phosphatase 124u/l, albumin 2.0 gm/dl .Pt was immediately taken up for emergency caesarean section after explaining all the high risks. Patient underwent emergency caesarean section with intra op findings of retroplacental clots of 400cc. 200ml fluid was drained from peritoneal cavity. Abdominal drain was inserted. 1 unit prbc and 2 units of ffp was transfused intraoperatively. On pod2 Patient was persistently having high bp records ranging from 190/120-150/90 which was controlled by anti-hypertensives including Ntg infusion and kept on alpha blockers. Pt was kept on iv antibiotics including third generation cephalosporin gentamycin and metronidazole and 1unit prbc and 2 ffp again transfused postoperatively, 2 units of albumin infusion was also transfused ivo low serum albumin level (1.5gm/dl) and high abdominal drain output exceeding 1 Lts (serous in nature) per day. USG was done in view of increasing abdominal girth and was suggestive of moderate ascites with free fluid in retroperitoneum. Ascitic fluid was sent for laboratory examination and was transudative in nature with ascitic fluid creatinine: 1.54mg/dl ;albumin 0.30gm/dl; afb on microscopy (ascitic fluid)was negative along with no other microbaterium growth. On pod 4 of emergency lscs a cord like structure was seen extending from drain tubing till drain bag which was confirmed to be fibrin material by HPE. On pod 5 drain tube was clamped for 24 hrs for ensuring no further increase in abdominal girth. Following which drain catheter was removed on pod 6. Skin sutures were

removed on pod 10 and patient was discharged in stable condition on pod 10.



Figure 1: Fibrin Thread In Drain Tube

Discussion

This was an unusual case of abdominal fluid accumulation following a caesarean delivery with no evidence of bleeding, iatrogenic injuries to the bowel or urinary tract nor peritoneal contamination. No definitive cause was identified in spite of performing a thorough postoperative biochemical and cytological analysis of the ascitic fluid.

Caesarean delivery is one of the most common surgical procedures performed worldwide in obstetrics and gynaecology[22]. Relaparotomy complicates 0.1–1.0% of caesarean delivery with up to 66% performed for intraperitoneal haemorrhage as a complication. Prophylactic drainage of the abdominal cavity after major surgery is widely used despite substantial disfavoured evidence[23]. Closed-suction drainage systems can provide an early sign for intraperitoneal haemorrhage[24]. An early indication for intraperitoneal haemorrhage may shorten the time to relaparotomy hence minimizing morbidity by preventing further blood loss, reducing the need for

transfusion, and allowing shorter recovery time. Conversely a drain can also aggravate discomfort and might be a source of infection or rarely require relaparotomy to remove a retained drain or repair a drain incision herniation (fallopian tube herniation, intestine, appendix, omentum, gall bladder herniation from drain site has been noted in many studies [4-9]. Postoperative ascites of unknown origin has been reported following laparoscopic appendectomy, laparoscopic cholecystectomy, laparotomy for resection of ovarian cysts, for myomectomies, laparoscopic salpingectomy, laparoscopic gynaecologic surgery, diagnostic laparoscopy, hysteroscopy and peritoneal dialysis. A rare cause of post op ascites could be the possibility of allergic reaction to chemical agents used during laparoscopy or laparotomy (antiseptic peritoneal lavage and methylene blue dye) or some substances used (carbon dioxide, electricity, light/ heat, diathermy and latex powder).

Ascites is also a frequent finding in pre-eclamptic patients when they undergo caesarean section. In a study by Cong and Wang 21.6 of 1,000 patients with severe pregnancy-induced hypertension had ascites [12]. Vaijyanath et al reported an incidence of ascites 8 in 1,000 patients[13]. Altered albumin to globulin ratio, a portal block, or haemoconcentration in the portal circulation could be the cause of ascites in pre-eclampsia. Others have observed that hypoproteinaemia or hypoalbuminemia and low colloid pressure (an albumin-to-globulin ratio < 1.5) was the trigger for sudden massive ascites, since reduction of the intravascular oncotic pressure facilitates the transudation of serum [13,18,19]. Several authors have supported Golden's observation by suggesting that portal congestion and portal hypertension lead to the formation of transudative ascites in pre-eclamptics

patient are both secondary to extensive temporary hepatic dysfunction [20,21]. In our patient, hypoalbuminemia complicated by daily proteinuria could have been the cause of the excessive ascites. More over other possible causes for ascites has highlighted in our initial section of this case report.

Our case is complicated with postop ascites after 24 hrs of drain placement explaining the possible cause be irritational reaction to peritoneal cavity due to drain placement along with possible cause of hypoproteinaemia leading to decreased oncotic pressure shifting intravascular fluid to extravascular compartment.

Conclusion

In case of increased abdominal drain output postoperatively we should rule out the underlying possible causes with differential diagnosis should be kept in mind of any bowel/bladder injury, tubercular or any other infective pathology. Ascitic fluid should be sent for culture , AFB stain and other biochemical investigations which will aid in clinching towards the underlying aetiology. After ensuring any of the above mentioned possible causes we can remove the drain after clamping and further monitor if any significant increase in abdominal girth noticed. In our patient removal of abdominal drain eventually resolved ascites and no further increase in abdominal girth noted and further no ascitic fluid collection noticed in ultrasonography. Here we conclude that removing drain could do no harm rather be a right decision in such cases further preventing from unnecessary measures, investigations and long hospital stay.

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