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The Rare Event of Post Caesarean Ascities: A Case Report

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Abstract

*Ascites after caesarean section is an unusual finding and an extremely rare event which is not frequently reported as well. Ascites or collection of the peritoneal fluid has been associated with malignancies, hepatic cirrhosis, injury to bowel and bladder or any vascular trauma and intraperitoneal infections. Malignancies and cirrhosis being the most common reason of the ascites in the developed world while Infections like tuberculosis and filariasis account for majority of the cases **(**chylous ascites**)** in eastern and developing world.*

The author reports a case of idiopathic post caesarean ascites which responded to the continuous drainage of the ascitic fluid with 100 % recovery of the patient.

Key Words: *Ascites, post caesarean, inflammatory peritoneal reaction.*

Introduction

Ascites after lower segment caesarean section **(**LSCS**)** is an unusual finding and an extremely rare event which is not frequently reported as well. Ascites or collection of the peritoneal fluid has been associated with malignancies, hepatic cirrhosis, injury to bowel and bladder or any vascular trauma and intraperitoneal infections. **(**1**)** Malignancies and the cirrhosis are blamed for 66 % of the cases in the developed world while infections like tuberculosis and filariasis account for majority of the cases **(**chylous ascites**)** in eastern and developing world. **(**2**)** The chylous ascites is the result of the disruption of the lymphatic system which can occur due to multiple factors. **(**3**)**. In cases where no cause is found it is labelled as idiopathic. The author reports a case of idiopathic ascites in a patient after the LSCS.

Case Report

35 years old middle eastern women who was gravida 6 para3 with previous 2 miscarriages, has history of previous one caesarean section followed by two vaginal deliveries, presented at 37 weeks and 2 days with labour pains. Her labor progressed smoothly till she was fully dilated. She remained fully dilated for three hours **(**With epidural**)** after which her emergency lower segment caesarean section **(**LSCS**)** was done due to persistent occiput posterior position of the baby. Her surgery was uneventful,

the only significant intra operative finding was the edema of the bladder due to the pressure of the fetal head. The post op recovery of the patient was also uneventful. On her third post operative day she was discharged in stable condition with mild abdominal distention and positive bowel and bladder movement.

She presented on 5th post operative day with abdominal pain and excessive abdominal distention in emergency room. Her bladder and bowel habits were normal. At the time of presentation, she had tachycardia 128 beats / min, her blood pressure **(**BP**)** was normal and she was afebrile with mild tachypnoea but was maintaining saturation at room air. Her chest was clear, and her abdomen was tense tender and distended, with dull percussion note and exaggerated bowel sounds.

Her abdominal X-ray was done in erect posture and dilated bowel loops were noted with multiple air fluid levels. No air under the diaphragm was seen.

On plain computed tomographic imaging **(**CT**)** there was massive ascites in addition to the postoperative changes in the anterior abdominal wall with a small amount of the free air in the lower abdomen that could be secondary to postoperative changes. However, small bowel perforation cannot be entirely excluded. Multiple pockets of gas within the endometrial cavity worrisome for infectious process were noted. The renal functions were deranged suggesting acute renal insult due to the shift of the fluid to the third stage.

The patient was admitted in ICU, hydrated and after sending the cultures the broad-spectrum antibiotics were started and strict monitoring of the IOP **(**input and output record**)** was also planned after catheterizing the patient.

The urgent referral to the interventional radiologist was sent for putting the drain inside the abdominal cavity. After putting the drain one liter of the clear fluid was drained and another one liter was drained in next 5 hours. The fluid was sent to the lab for the detailed chemical analysis and cultures. After draining the fluid, the CT abdomen-pelvis was repeated with contrast on the first day of admission which showed almost complete resolution of the ascites, the bowel injury was ruled out with confidence and the bladder injury was suspected as multiple air locules were observed anterior to the pre-vesical space with trace of fluid in both inguinal regions. Therefore, Cystogram was done which confirmed the integrity of the bladder.

A thorough post operative hematological, biochemical and cytological analysis of the ascitic fluid showed no definite cause. Biochemical analysis of fluid drained from the abdomen revealed an exudate **(**the protein content was 40 g/dl**)** containing excess WBCs only, mainly polymorphonuclear

leukocytes. Ascitic fluid cultures for aerobic/ anaerobic organisms and mycobacterium tuberculosis did not grow any organisms. No malignant cells were noted on cytology.

The patient was managed with intravenous antibiotics with continuous drainage of the ascites without the diuretics, intravenous albumin followed by the high protein diet. The ascites gradually resolved over a period of week. The serial investigations which were done during her admission are shown in the table 1.

	AST 32 IU/L <	ALT 32 IU/L<	UREA 2.1-7.1 M MOL/L	CREATININE 44-106u MOL/L	NA 136-145 M MOL/L	K 3.5-5.1 MMOL/L	CRP 5<	HB 11.8-14.8 G/DL	HCT 33-45 %	TLC 4-11*10*3/uL	PLT 150-450 10*3/uL	ALBUMIN 35-50G/L	PROCALCITONIN 0.5<
DAY 0	32	7	16.9	339.2	128	5.6	108	10.4	34	14.1	491	---	0.11
DAY 1	11	6	3.6	30.9	131	5.2	109	10.2	33	13.7	468	29	0.12
DAY 2	10	6	2.6	25.8	139	3.8	126	8.2	27	10.7	340	27	---
DAY 3	---	---	1.8<	25.7	139	4.3	121	7.8	25.2	11.9	374	---	0.06
DAY 4	----	---	1.8<	30.1	137	3.7	62.9	8.4	27.9	9.9	411	---	---
DAY 5	-----	---	1.8<	27.8	139	3.6	---	8.9	29.7	8.4	473	---	---
DAY 7	----	---	---	---	137	4.4	---	9.1	29.1	9.6	500	---	---
DAY 8	----	---	---	---	---	---	9.7	---	---	---	---	32	---
DAY 10	------	---	1.8<	30.4	138	4.3	---	---	---	---	---	---	---

Table 1: Serial Investigations Showing Improvement After Admission

In the first 24 hours the patient was kept NPO **(**Nill per oral**)** and was put on the negative balance. After that the balance was kept positive as shown in table 2.

Day after admission	Input (ml)	Output (ml)	Balance (ml)
Day 1	3150	5370	-2220
Day 2	4350	3260	1085
Day 3	2680	1500	1180
Day 4	3230	2920	310
Day 5	Oral free	----------	----------

Table 2: Input Out Put Record

The patient was kept NPO for the initial 2 days of admission and then after ruling out the bowel and bladder injury the patient was shifted to liquid diet and gradually was shifted to oral high protein, low salt diet, on 4th post admission day which was 9th post operative day.

The peritoneal drain was retained for 5 days and was removed on day 6 when the amount of fluid being drained was reduced to less than 50ml in 24 hours. The renal functions started improving after hydration and drainage of the ascitic fluid. She also received one unit of pack cells in view of low Hb.

She was discharged in stable condition on 7th post admission day i.e., on 12th post op day in stable condition. She was seen after a week by the gynecologist and nephrologist and marked improvement was noted, no recollection of the fluid was observed which was confirmed by the abdominopelvic ultrasound on the day of the visit. After a month the nephrologist confirmed the complete resolution of the acute renal insult. At 3 months follow up the patient was stable with no re accumulation of the ascitic fluid and marked improvement in the general health status was noticed.

Discussion

Ascites is the cumulation of the excessive fluid inside the peritoneal cavity. It can be pancreatic, bilious, malignant, chylous and tuberculous in nature. **(**4**)** chylous ascites is due to the obstruction of the lymphatic channels leading to the leakage of the lymphatic fluid from the retroperitoneal lymphatics which were dilated via fistula. **(**5**)** Chylous ascites or chyloperitoneum can be due to malignancies and cirrhosis in the western world, while the most common reason in eastern and developing countries is tuberculosis and filariasis. Congenital, inflammatory, post operative and traumatic cases are less frequent. Chylous ascites is milky, hazy intra-abdominal fluid which is rich in

triglycerides. In pregnancy and after delivery complication of chylous ascites is also an extremely rare event.

The presence of the ascites is also observed in patients having preeclampsia **(**6,7**)** This ascitic fluid is found to be due to hypoproteinemia and a low albumin/ globin gradient resulting in low intravascular oncotic pressure.

This case was an unusual case of ascites which developed after an emergency LSCS with no evidence of the bleeding and iatrogenic injury to the bowel, bladder or any peritoneal contamination. A thorough post operative hematological, biochemical and cytological analysis of the ascitic fluid was done and no definite cause was found. The patient was managed with intravenous antibiotics with continuous drainage of the ascites without the diuretics, intravenous albumin, high protein diet and her ascites was gradually resolved over a period of week. A very similar case was reported by Namrita and Sanjay but in contrary to the case under discussion they used Aldactone and paracentesis in their patient. **(**1**)** However, the author found the continuous drainage of the peritoneal fluid with the help of the drain as the superior option and complete recovery without the need of the diuretics.

Theoretically the possibility of an inflammatory peritoneal reaction can be the reason but, on the literature review, the author found that the most likely cause of the ascites is the diffuse injury to the peritoneum secondary to the substances used during the operation but this was mainly found after laparoscopic gynecological surgery. **(**8**)**

In few case reports where the post operative idiopathic ascites was found after the caesarean section suggested the possibility of the allergic reaction to the chemical agents like methylene blue, anti-septic peritoneal lavage, or some other substances used like carbon di oxide, electricity, light / heat diathermy and latex powder, leading to peritonitis and usually these patients are presenting with fever in addition to the intraperitoneal fluid collection.**(**9.10**)** However, the patient under study did not develop fever, and was not administered any specific chemical agent or intraperitoneal diathermy during the surgery.

An association of the low serum albumin was found with infection in the septic patients in ICU, however all the cultures were negative for the patient under study and no element of infection could be found. Idiopathic postoperative ascites has been reported by the surgeons and gynecologists after the laparoscopic appendectomy, laparoscopic cholecystectomy, laparoscopic ovarian cystectomy, laparoscopic salpingectomy, myomectomy, diagnostic laparoscopy, hysteroscopy and peritoneal dialysis. **(**11,12,13**)**

Conclusion

The ascites in the post operative period after LSCS is a very rare complication. These patients need thorough investigations to rule out iatrogenic injury to urinary tract, elementary tract, or any vascular injury. However, if no definite cause is detected most likely explanation is idiopathic. With this case experience author suggests that the only treatment required for these patients is the continuous drainage of the fluid which leads to full recovery in these patients with the palliative and supportive therapy without the need of any further management.

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