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Case Report

Life threatening fulminant peritonitis following spontaneous mid-trimester abortion

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Abstract

An un-booked, thirty year second gravida from lower socioeconomic class, laborer by occupation, residing in rural area was admitted with history of spontaneous abortion at 24 weeks of gestation at home. It was attended by untrained person. Patient developed distension of abdomen, breathlessness and high grade fever following day of abortion. On examination, her general condition was poor. She had severe anaemia, tachycardia, tachypnoea and high grade fever. She was ill-nourished with BMI of 16.Her abdomen was grossly distended up to xiphi-sternum giving rise to cardio-respiratory embarrassment. The abdomen was tense with cystic feel suggestive of either gross ascitis or a big ovarian cyst of 32 weeks size pregnant uterus. Patient underwent exploratory laparotomy with the provisional diagnosis of peritonitis or ruptured ovarian tumour. Laparotomy revealed four to five liters of thin watery, extremely foul smelling, purulent fluid in the abdominal cavity. There was no bowel injury. After thorough peritoneal lavage and after keeping peritoneal drain, abdomen was closed with tension sutures. Patient received fourth generation higher antibiotics, blood transfusions, intravenous albumin. Post operative period was relatively smooth. Patient went home after twelve days of admission. The case is presented because of its rarity in regards to primary aetiology i.e. spontaneous abortion, severity of sepsis, short duration of symptoms, clinical and radiological diagnostic dilemma and successful team efforts that saved the life.

Keywords: Fulminant peritonitis, Septic abortion, maternal mortality

1. Introduction

Haemorrahge and sepsis are known complications associated with spontaneous and induced abortions.[1] They are responsible for ten to twenty percent of maternal deaths in developing world.[2] Sepsis following abortion is usually a feature of induced abortion, especially when it is performed under unhygienic conditions and by untrained person. Incomplete evacuation of uterus and trauma to the uterus are predisposing factors for post-abortal sepsis. Severe degree of sepsis following spontaneous abortion is rare. Retained bits of placenta or embryo following spontaneous abortion may predispose uterine sepsis in women with decreased immunity. Uterine infection can spread to the pelvis or outside the pelvis. Spread of infection depends on severity of infection, virulence of organisms and immune response of the patient. Complications like peritonitis, endo-septic shock, renal failure and disseminated intravascular coagulation may endanger life following severe post-abortal sepsis.[3]

2. Case report

An unbooked, thirty year second gravida from lower socioeconomic class, laborer by occupation, residing in rural area was admitted with history of spontaneous abortion at 24 weeks of gestation at home. It was attended by untrained person. Patient developed distension of abdomen, breathlessness and high grade fever following day of abortion. She was a booked case at private hospital and had undergone obstetric sonography at 20 weeks of gestation. She had only one antenatal visit to the hospital during index pregnancy. There was no significant past medical or surgical history.

On examination, her general condition was poor She had severe anaemia, tachycardia, tachypnoea and high grade fever. She was ill-nourished with BMI of 16.Her abdomen was grossly distended up to xiphi-sternum that gave rise to cardio-respiratory embarrassment. The abdomen was distended, globular in shape, tense with cystic feel suggestive of either gross ascitis or a big ovarian cyst of 32 weeks size pregnant uterus. **(Fig 1)** Per vaginal examination revealed eight weeks size uterus and marked tenderness all over the abdomen. There was no bleeding or any discharge from cervix.

Laboratory profile on admission revealed Hb =5.3 g/dl, PCV =18.6%, platelet count = 3lac 81 thousand, TLC= 10,300/mm3, DLC =N-74%, L-18%, M-4%, E-4%, MCV= 65.3 fl, MCH= 18.6 pg, MCHC= 28.5 g/dl., Prothrombin time test= 14.9 secs, INR= 1.15, APTT=3.5-8 secs, Plasma glucose random= 78mg/dl, LFT= S. Bilirubin total- 0.86 ng/dl, Conjugated bilirubin= 0.27 mg/dl, SGOT- AST-35.3 IU/L, SGPT-ALT- 24IU/L, alkaline phosphatase- 186 IU/L, Renal Function Tests results showed- S.urea-31 mg/dl, S. creatinine- 0.75mg/dl, S. Na= 133Meg/L, S.K- 8.8Meq/L S.LDH= 496 IU/L, S. uric acid- 5-2 mg/dl, S. protein- 4.7 gm/dl, albumin- 2.2gm/dl, globulin- 2.5gm/dl, S. Mg -1.7 MEq/L, S.Ca- 9mg/dl,. Peripheral blood smear showed anisocytes and poikilocytes present, microcytic hypochromic.WBC Series was within normal limit, Platelet- adequate, Haemoparasites- not detected. Blood group= O Rh positive, HIV and, HBsAg, VDRL tests were negative, Bleeding time=1 min, Clotting time=5 mins, Chest x-ray revealed normal study. X-ray abdomen (erect) showed a distinct fluid level, bowels displaced to the sides, a definitive opaque shadow of the cyst in the pelvis. **(Fig.2)** Ultrasonography of the abdomen and pelvis revealed hepatomegaly (16cm), Uterus measured 10 x 5.6 x8 cm (does not appear as a involuting uterus of 24 wks). There was no evidence of incomplete abortion. There was evidence of large, pelvico abdominal, thick walled (5mm) cystic natured lesion with dense internal echos measuring 26 X 16 X 15 cm (vol 4000cc). This lesion was displacing bowel loops peripherally. Ovaries were not seen separately suggestive of ovarian cyst / peritoneal inclusion cyst. This cystic fluid was aspirated. It was white purulent fecal smelling pus. Fluid cytology and biochemical analysis revealed predominantly neutrophils. Glucose- 61.3ng/dl, protein-4.6gm/dl, LDH=2589 IU/L,CT-scan (contrast) abdomen and pelvis revealed Hepatomegaly (16cm) and evidence of minimum sub-capsular fluid in sub-diaphragmatic portion, bulky involuting uterus and evidence of large 25 x21 x15 cm well

defined cystic natured lesion with air fluid level within it seen in abdomino- pelvic cavity extending cranially up to pubic symphysis. This lesion showed well defined thin enhancing wall. No evidence of septation. This lesion was directly indented by the anterior wall to fundic wall of uterus, which was seen projecting into the lesion. No communication with any other major organ or bowl loops is seen. No free gas was present in the abdominal cavity.

Patient was kept nil by mouth and was treated with intravenous fluids and broad spectrum antibiotics (Inj. Cephotaxim 1gm i.v 12 hrly, Inj. Metrogyl 100 cc i.v 8 hrly, Ryles tube was inserted. Foleys catheter was inserted. Flatus tube was passed, input output charting was done, her vitals were monitored and abdominal girth was recorded. In view of the deteriorating general condition of the patient, decision for taking her up for exploratory laparotomy was taken. High risk consent was obtained. Adequate arrangement of blood and blood products were made available. Pre anaesthetic work up was done and general surgeon was informed about the case so that he would be ready for any help needed during surgery.

Exploratory laparotomy was performed under general anaesthesia. The abdominal cavity was full of white purulent, fecal smelling watery pus, approx. 4 liters in quantity**. (Fig 3, 4, 5)** Small intestines were adherent to each other and to the posterior wall of the uterus. The pouch of Douglas was obliterated with the adherent bowel loops. There was serosal inflammation and edema of the wall of intestines with a purulent membrane formation. The infra colic compartment was sealed with the pyogenic membrane**. (Fig 6)** Bowel or uterine perforations could not be visualized in the exposed parts of the bowel and uterus. The uterus was bulky and pouch of Douglas could not be visualized. There were pus flakes attached to the entire abdominal cavity, bowels and uterus. Both fallopian tubes were edematous and congested. Both ovaries were adherent to the bowel loops. In view of severe infection to the adhered bowels, surgeon gave advice against mobilization of bowel. A normal saline wash was given to the abdominal cavity and inj. Metrogyl was instilled in to the abdominal cavity. Two drains were inserted in the abdominal cavity and fixed to the skin surface. Abdomen was closed in layers. Patient withstood the operation well and was haemo-dynamically stable.

Post operatively, patient was transfused with 3 units of packed cell transfusions (PCV) and higher antibiotics. (Inj. Piperacillin, Inj. Tazobactum, Inj. Gentamycin, Inj. Metrogyl). Her urine input output and drain output, were monitored. Patient's condition improved gradually and post operative physiotherapy was also started from post op day 3. After 7 days of Piptaz antibiotic, she was started on inj. Augmentin, and tab. Nitrofurantoin. The pus from drain tube was sent for culture which suggested of *Staphylococcus aureus*. Her blood and urine culture were negative. On second and third post operative day, she developed fever of 100 – 102 degree, which got subsided with inj. Paracetamol i.v 8 hrly .On the 8th day following surgery, the right side drain was removed with left drain still *in situ*, the Foleys catheter was also removed. On 12th post operative day, alternate stitches were removed, there was minimal discharge from the wound, which was sent for wound culture and reports were negative for any infection. On the 13th post operative day, right side drain was removed. On 14th post operative day, all stitches were removed. There was no soakage or gape. On 16th day of surgery, a repeat USG abdomen pelvis was done, which showed uterus size of 9 x 4 x 7 cm (involuting). There was no evidence of any intrauterine collection seen. X ray abdomen (erect) before discharge showed normal study. Patient was advised to take oral iron preparation; high protein diet. She was counseled about contraceptive measures to avoid pregnancy for few years. Her laboratory findings on discharge:- Hb- 11.7g/dl, PCV- 37.4%, platelets count- 3 lac 54 thousand. TLC- 7,600. DLC= N-63%, L-27, M-6%, E-4, Platelets adequate, RBC series- anisocytes and poikilocytes 2+, normocytic and normochromic. WBC count was normal, random blood sugar level was 99 mg/dl, S. protein- 5.8gm/dl, S. albumin- 2.2gm/dl, S. globulin- 3.6 gm/dl., S. urea- 13.5 mg/dl, S. creatinine - 0.91mg/dl, S. Na- 4.8MEq/l, S.K-4.8MEq/l., S, uric acid- 2.7 PT-12.3 secs, APTT-27.5secs, INR- 0.99.

Fig 1-Globular distended abdomen

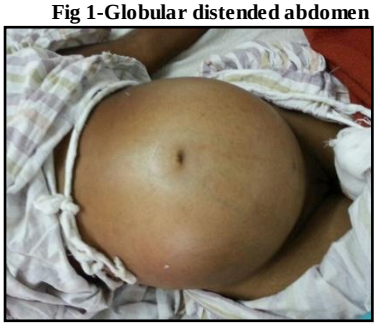
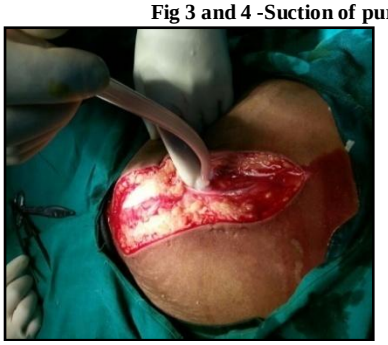


Fig 2-X-ray abdomen on admission

Fig 3 and 4 -Suction of purulent fluid from peritoneal cavity



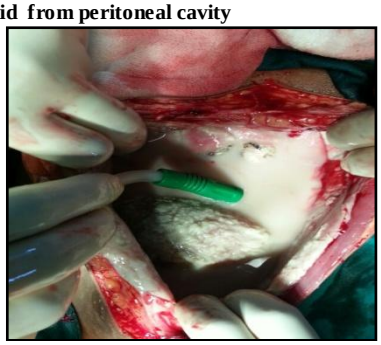


Fig 6 -Four litres of Pus

Fig-5-Slough over viscera and matted gut

Fig 7- Tension sutures in situ

Fig 8- Surgical site after stitch removal

3. Discussion

This case of life threatening severe peritonitis following spontaneous mid-trimester abortion is presented for its rarity. The woman belonged to poor socio-economic class and was poorly nourished. She was laborer by occupation and was working in sugar cane field during pregnancy. She was second gravida and had previous normal delivery having male baby aged two years. Initially, it was suspected to be the complication of induced abortion for unwanted or unplanned pregnancy. The female relative attending the patient was probed to find out additional information about any attempts of termination of pregnancy done at any place outside. The relative narrated that it was a very much wanted pregnancy and there was spontaneous abortion at home, which was complete and was attended by some woman in the village. No proper precautions were taken while conduction of abortion as it was sudden in onset. There was no history of excessive bleeding or any internal examination done during process of abortion. Patient was taken to the doctor next day with complains of pain and distension of abdomen, She was then referred to tertiary care centre. Patient had not received any antibiotics after the abortion had taken place. The antibiotics play important role in prevention of sepsis following abortions.[4,5]

The huge distension of abdomen at the time of admission, short duration of symptoms, and poor general condition of the patient created dilemma in the mind of the treating obstetrician. Huge distension of abdomen suggested either an ovarian cyst that might have got ruptured or presence of ascitis. Ultrasonography and CT scan of abdomen suggested large collection in peritoneal cavity which was encysted within a thick capsule suggestive of large ovarian cyst. Increasing cardio respiratory embarrassment and deteriorating general condition of the patient prompted obstetrician to go ahead with exploratory laparotomy. Emergency laparotomy revealed large collection of extremely foul smelling fluid in the peritoneal cavity. There was severe peritonitis and bowel loops was matted. Posterior surface of the uterus was completely adherant to bowel and was not available for inspection for the evidence of any perforation, due to any criminal attempts of abortion, the history of which could have been hidden by the relatives for some reasons. In view of the severe peritonitis and absence of any evidence of bowel injury, decision of closure of abdomen was taken after drainage of four liters of pus. Peritoneal lavage was given with normal saline. Abdomen was closed after putting two peritoneal drains. Patient had rapid recovery following surgery and was discharged from hospital after fifteen days.

Although government is trying to implement Emergency Obstetric Care services through its EMOC programme, there is still scarcity of good abortion care services in India. Non availability and non accessibility of abortion care facilities in rural areas result into septic abortions and its subsequent life threatening complications. It is unfortunate that the present scenario regarding abortion care services in India is as gloomy as other developing countries.[6]

4. Conclusion

Although extremely rare, spontaneous abortions can result into severe sepsis and endanger life of the pregnant woman. Good nutrition, prevention of anaemia, improved availability and accessibility of abortion care services can prevent such incidence of severe post- abortal sepsis. Good team work at tertiary care centers can save many young lives. The case is presented because of its rarity in regards to primary aetiology i.e. spontaneous abortion, severity of sepsis, short duration of symptoms, clinical and radiological diagnostic dilemma and successful team efforts that saved young life.

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