

Fatal Intestinal Perforation in a Tubal Ligation Procedure: A Rare Case

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ABSTRACT

Tubal sterilization is the second most commonly used procedure for family planning in the world. Tubal ligation is the most commonly used method for female sterilization in India. Among the most common complications in this procedure are bleeding due to vessel rupture, tearing of mesosalpinx, intestinal perforation and bleeding. In the present case of fatal intestinal perforation in a post medical termination of pregnancy (MTP) with tubal ligation procedure, after complete autopsy and histopathological examination septic shock with peritonitis was found to be the cause of death. This is a rare case of conflicting therapeutic knowledge and unusual symptoms which posed a difficult challenge for the doctors to manage and ultimately caused the death of the patient. This case also highlights the importance of previous medical records in history-taking.

Keywords: Bleeding, Intestinal perforation, Septic, Conflicting therapeutic knowledge

INTRODUCTION

Currently, female sterilizations account for about 85% surgical sterilization procedures in the world. Tubal ligation is the second most commonly used procedure for family planning in the world. [1] The most common complications in this procedure are bleeding due to vessel rupture, tearing of mesosalpinx, intestinal perforation and bleeding. [2] In the present case of fatal intestinal perforation in a post medical termination of pregnancy (MTP) with tubal ligation procedure, after complete

autopsy and histopathological examination septic shock with peritonitis was found to be the cause of death. This is a rare case of conflicting therapeutic knowledge and unusual symptoms which posed a difficult challenge for the doctors to manage and ultimately caused the death of the patient. This case also highlights the importance of previous medical records in history-taking.

CASE REPORT

A 30-year old woman presented in the emergency department of Government Medical College and Hospital, Jalgaon with chief complaints of abdominal pain and dizziness. Her extremities were cold, pulse was very feeble and blood pressure was low. Relatives of the patient claimed that she had undergone an abortion and sterilization a few days ago, however, they didn't present any medical record. Ultrasonography of abdomen showed impression of mild to moderate free fluid in abdomen with moving internal echoes corresponding to bowel perforation or haemorrhage. She later became unconscious. Emergency cardio-pulmonary resuscitation was performed. She was treated with intravenous fluid therapy with ringer lactate 500cc & injection dexamethasone 2cc. Patient's condition improved and was kept under observation. However, she died the next morning. The dead body was brought for post-mortem examination at mortuary of Government Medical College and Hospital, Jalgaon. Post-mortem examination was carried out

by team of doctors from department of forensic medicine and department of pathology.

External Examination:

There were no signs of decomposition nor distension of abdomen. Sutured wound was present over lower abdomen, horizontally situated 10cm below umbilicus and 3cm above pubic symphysis of length 9.5cm. The sutures were intact and in situ (Figure 1). Multiple puncture wounds were present over dorsal aspect of both hands and anterior aspect of left forearm just above wrist joint. Puncture wounds present over right antero-lateral aspect of neck were suggestive of therapeutic central line catheterization.



Figure 1: Sutured incision over lower abdomen.

Internal Examination:

On internal examination, following positive findings were noted:

1. Abdomen wall- On removing of sutures, evidence of haemorrhagic infiltration was present over rectus sheath over an area of 12 x 5cm (Figure 2).
2. Peritoneum- Inflamed with greenish yellow coloured pus flecks present. Blood and blood clots were adhered to it.
3. Abdominal cavity- Along the area of approximation of rectus sheath by suture material, on removing & separation of sutures, abdominal cavity contained 1.5 litres of reddish free fluid mixed with blood and blood clots along with inflammation and features of peritonitis over abdominal contents (Figure 3).

4. Small intestine- Loops of small intestine were inflamed and adherent to each other (Figure 4) with evidence of perforating wound present whose edges were everted. The wound was inflamed and reddish (Figure 5).

5. Large intestine- Loops of large intestine were inflamed and adherent to each other.

6. Liver and gall bladder- Intact with greenish yellow colour pus pockets present over external surface. Liver lobes on cross-section were congested.

7. Pancreas and Suprarenal Glands-Intact with greenish yellow colour pus pockets present over external surface. Congested on cross-section.

8. Spleen-Intact with greenish yellow colour pus pockets present over external surface. Soft and pulpy on cross-section.

9. Uterus, fallopian tube and ovaries- Uterus was enlarged of size 10cm x 9cm x 4cm with evidence of infiltration of blood over antero-lateral lower segment of uterus. On cross-section, uterus contained blood clots (Figure 6). Both ovaries were intact. Evidence of ligation of right fallopian tube was present with sutures intact and in-situ with minimal haemorrhagic infiltration around ligation site. Evidence of ligation of left fallopian tube along with ovarian vessels was present but sutures were loose with evidence of blood and blood clots present over area of size 4 x 3cm with extension of haemorrhagic infiltration on left lateral wall of uterus with involvement of left broad ligament extending over antero-lateral surface of uterus.



Figure 2: Haemorrhagic infiltration present over rectus sheath



Figure 3: Abdominal cavity containing reddish free fluid.



Figure 4: Inflammation present over entire abdominal cavity showing abscess.



Figure 5: Perforation of ileum of small intestine.

Following sealed bottles were preserved for accessory examinations-

Bottle no 1: containing stomach & intestine with its contents.

Bottle no 2: 1/3rd of liver, 1/2 of spleen & 1/2 of each kidney.

Bottle no 3: Blood in plain bulb for chemical analysis.

Bottle no 4: Whole heart and pieces of lungs, liver, spleen, kidney, brain & half of uterus along with fallopian tubes preserved in formalin for histopathological examination.

Bottle no 5: Blood and peritoneal fluid preserved for microbiological examination. Histopathological examination revealed mild inflammatory infiltrate with bacterial contamination. *Escherichia coli* were reported in blood and peritoneal species sample on micro-biological examination. Considering clinical history, post-mortem findings and laboratory investigations, the cause of death was given as “Septicemic shock due to peritonitis and ileal perforation in an operative case of tubal ligation”. [3]



Figure 6: Cross-section of uterus containing blood clots.

DISCUSSION

This complication has only been reported once in Khandesh Region of Maharashtra. [4] It is consistent with post-mortem findings found in other studies. [3,4] The methods used for female sterilization are: Laparotomy, mini laparotomy, vaginal route, laparoscopy and hysteroscopy. [2] Vaginal route method and hysteroscopy are ruled out taking into consideration the sub-umbilical incision found on external examination. Size of the incision indicated method used to be laparotomy. Since there was no clinical or surgical history provided on arrival to the emergency ward, it was difficult to judge the method used. Laparoscopic procedure might have been used as one of its noted complications is superior epigastric vessel rupture. [2] It might have occurred at the time of insertion

of trocar and then the incision might have been made to control it. Another important point is the medical termination of pregnancy which was performed in this case. “Laparoscopic sterilization can be concurrent with MTP”. [1] “Laparoscopic sterilization combined with MTP is forbidden by the government of India”. [2] These two statements for the same procedure create confusion in the mind of the surgeon and can cause therapeutic conflict and disadvantage to the patient as in this case. This complication has proven to be fatal in other studies as well [3-6] Septic shock could not be detected by doctors because of the unusual presentation of cold extremities rather than warm extremities. Caution is needed at autopsy to differentiate the dark red colour of loops of intestine due to post-mortem hypostasis from true infarction. Hypostasis is seen to be interrupted when the gut is stretched out, due to alternate dependent loops, whereas real necrosis is usually continuous and the serosa is dull and friable. [7] *Escherichia coli* is the most populous member of the aerobic bacterial flora of the human intestine. It causes urinary tract infection, diarrhoea, septicaemia and pyogenic infections. [8]

CONCLUSION

Since tubal ligation is a part of National Birth Control Programme special emphasis must be given during training to minimize complications as far as possible. Detection of complications must be taught for efficient and timely management. Importance of clinical history and symptoms should be highlighted as this can start a whole new algorithm of treatment especially in case of emergency. Maintenance of clinical records should be

taught to patients. Contradicting statements in leading reference textbooks must be corrected.

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