

LAPAROTOMY IN SEPTIC ABORTION

by

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Introduction

Management of septic abortion is a controversial subject and the controversy is greater when septic abortion is complicated with hypotension and/or peritonitis. Conventional conservative treatment is no doubt justified in the majority of cases, but generalisation of this form of treatment is not judicious. The need for abdominal exploration seems obvious in many cases. But if any good result is to be achieved in these poor-risk patients, the appropriate timing of operation is most vital.

The purpose of this report is to analyse the experience of laparotomy in septic abortion complicated with hypotension and/or peritonitis.

Material

This series includes 28 cases of septic abortion complicated with peritonitis and/or hypotension who had laparotomy at N.R.S. Medical College Hospital, Calcutta, during the period from 1st January, 1972 to 31st July, 1976. A preliminary report of laparotomy in 8 cases of septic

abortion has already been published previously. (Chakraborty B. N. *et al* 1976) During the period under review there was a total of 478 cases of septic abortion, out of which 84 cases were of grade III type. Hence the number of laparotomy in relation to total cases of septic abortion was 5.8 per cent while the incidence in relation to grade III infection was 33.3 per cent. Incidence of laparotomy has increased since the preliminary report.

Clinical Features

The minimum age in this series was 17 years and the maximum 41 years. Majority of patients belonged to the age group of 21-30 years. There were 5 patients in whom the septic abortion occurred in the first pregnancy. Out of these 5 cases, 2 were unmarried. Rest were multiparous, the highest parity being 8. Duration of pregnancy was upto 8 weeks in 4 cases, 9-12 weeks in 12 cases, 13-16 weeks in 8 cases and more than 16 weeks in 2 cases.

Clinical Findings

On admission, systolic blood pressure was below 100 mm Hg in 16 cases and in 12 cases it was above 100 mm Hg. More than 50 per cent of the cases had temperature of 102°F or more when admitted. In 5 cases the urinary output was

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less than 1000 cc per day and in rest output was more than 1000 cc.

Local Signs

Out of 28 cases, 4 had localised lower abdominal distension and 18 had moderate to gross generalised abdominal distension and in 6 there was no distension. Bowel sounds were sluggish in 19 cases and absent in 4 cases.

Laboratory Findings

Haemoglobin level was 7 gm or above in 16 cases, less than 7 gm in 12 cases, the lowest being 5 gm per cent. Vaginal swab examination was done in 16 cases. Causative organisms isolated were *E. Coli* in 8 cases. *Streptococcus haemolyticus* in 3, *Staph. pyogenus* in 3 and *Klebsiella* in 2 cases.

Management on Admission

The cases were immediately started with massive antibiotic therapy. Antibiotics of choice were parenteral chloramphenicol and streptomycin. Other treatment consisted of intravenous infusion and blood transfusion where necessary and gastric suction in cases of generalised abdominal distension. Vitamins and hydrocortisone were used as supportive therapeutic measures.

Surgical Management

All the 28 cases had laparotomy. In 24 cases laparotomy was primary and in 4 cases it was preceded by initial other surgical treatment. In 3 cases D and C was done but as condition deteriorated laparotomy had to be done. In 1 case posterior colpotomy was performed. The condition improved temporarily but abdominal distension reappeared and so laparotomy had to be performed.

Time From Admission to (Table I)

TABLE I
Timing of Surgery

Timings of surgery in hours	No. of cases
1. Within 24 hours	2
2. 24-48 hours	13
3. 48-72 hours	8
4. 72-96 hours	3
5. 96-120 hours	2

Prior to surgical interference, every patient except one case where diagnosis was mistaken for ectopic pregnancy was treated conservatively and when the general condition did not improve or started deteriorating exploratory laparotomy was performed. Table I show the time which elapsed from admission to the performance of laparotomy. In 5 cases laparotomy was performed after 72-120 hours of admission. Temporary improvement after initial conservative management in 4 cases tempted us to further continue with the conservative treatment and delayed the decision for laparotomy. In 1 case posterior colpotomy showed slight improvement and laparotomy had to be done later when the condition deteriorated (Table I).

Indications for Laparotomy (Table II)

TABLE II
Indications for Laparotomy

Indications	No. of Cases
1. Persistent peritonitis	14
2. Lower abdominal distension or lump	4
3. Clinical features of mechanical obstruction	2
4. Persistence of septic hypotension	4
5. Septic hypotension with oliguria	3
6. Diagnosis confused with ectopic pregnancy	1

Persistent peritonitis was the major indication for laparotomy in this series.

One patient Po + o married for 3 months was admitted with features of shock and this case was diagnosed as ectopic pregnancy but after laparotomy it was found to be a case of uterine perforation following interference. Two cases had clinical features of mechanical intestinal obstruction. In 7 cases, septic hypotension with or without oliguria was the indication for laparotomy (Table II).

Type of Operation and Their Indications (Table III)

Table III shows the type of operations performed and their indications. Out of 28 cases, hysterectomy was performed in 14 cases including one case of hysterectomy with resection anastomosis of small

intestine. Unresponsive hypotension was the indication for hysterectomy in 5 cases.

Mortality

In this series there were 8 deaths out of 28 cases of laparotomy giving a mortality rate of 28.6 per cent.

In our institution laparotomy is not done in all cases of septic abortion complicated with peritonitis or hypotension as there is difference of opinion regarding laparotomy among consultants. Records of 43 cases of septic abortion complicated with peritonitis where only conservative management was performed, show that there were 22 deaths, out of 43 cases giving a mortality rate of 52.1 per cent.

TABLE III
Type of Operation and Their Indications

Operation	Indications	No. of cases
Drainage of pus from peritoneal cavity	Pus in the peritoneal cavity	8
Repair of uterine rent with drainage of pus	Uterine perforation and pus in the peritoneal cavity	3
Salpingo-oophorectomy with drainage of pus	Tuboovarian abscess with pus in peritoneal cavity	1
Separation of loop of intestine	In one case loop of small intestine was adherent to a rent on the posterior wall of the uterus (rent was sealed by the adherent loop of intestine) In one case purulent exudate and "bread and butter" adhesion of loop of small intestine	2
Hysterectomy	(a) Uterine perforation (b) Pyometra (c) Gangrenous uterus (d) Unresponsive hypotension with large uterus (e) Unresponsive hypotension with oliguria	3 cases 4 cases 1 case 2 cases 3 cases 13
Hysterectomy with resection anastomosis of small intestine.	Uterine perforation with injury of bowel	1

Discussion

The surgical treatment so far generally accepted were evacuation of uterus under antibiotic cover even in febrile condition and drainage of pus from pouch of Douglas if there is any collection of pus in this area. But there is a great deal of hesitancy in accepting the role of laparotomy in septic abortion complicated with peritonitis and/or hypotension.

The cases presented in this series adequately justify the scope of laparotomy in cases of unresponsive hypotension or persistent peritonitis complicating septic abortion. There were few cases of uterine perforation leading to peritonitis. One case of uterine perforation was also associated with bowel injury. Moreover two cases in this series had peritonitis followed by mechanical intestinal obstruction. In one, a loop of small intestine was adherent to an uterine rent and in the other coils of intestines were glued together in the form of 'bread and butter' adhesions. Laparotomy is a must in these cases and conservative treatment will inevitably lead to fatal termination. Pinto Rosario (1970) also reported 2 cases of laparotomy for bowel injury.

In case of collection of pus in the peritoneal cavity, conservative treatment is of no effect. If the pus points through the pouch of Douglas, this can be drained by posterior colpotomy. But most often this area is shut down by inflammatory adhesion and laparotomy remains the only solution for drainage of pus. Moreover, in the majority of cases pus collects mainly in the paracolic gutters, and not in the pouch of Douglas. Only drainage of pus was done after laparotomy in 8 cases and in one case laparotomy and drainage of pus through the flanks had to be done after initial posterior colpotomy. Purulent exudate is not only the cause of severe

grades of infection but is also responsible for intestinal ileus, a condition if not properly treated will lead to gross electrolytic imbalance.

Some cases in the present series had peritonitis without apparent uterine injury or bowel pathology. This could be purely due to spread of infection from the uterine cavity. Brian Little (1967) is of opinion that infection without interference might result from the lowered resistance of the host, virulent organisms and the presence of an unusually large number of bacteria. Any one of these in an apparently simple case of septic abortion would lead to severe complications, like peritonitis, hypotension or oliguria. Sometimes this type of shock and oliguria cannot be effectively treated unless the source of continued infection is removed. In the present series persistent hypotension was present in 7 cases. In 5 cases hysterectomy was done and in 2 drainage of pus from peritoneal cavity was performed.

The place of hysterectomy is the most controversial aspect of the surgical treatment in septic abortion. In the present series, hysterectomy was done in 14 cases, the indications being uterine perforation in 4 cases (including one case of uterine perforation with injury to bowel), pyometra 4 cases, gangrenous uterus 1 case, unresponsive hypotension with large uterus 2 cases, unresponsive hypotension with oliguria in 3 cases.

Douglas and Beckman (1966) performed 19 hysterectomies in their series of 50 cases. Unresponsive septic hypotension was the major indication of hysterectomy in their series. Purandare (1967) discouraged the heroic surgical intervention. Reid (1967), on the otherhand recommended hysterectomy in cases of persistence of shock and oliguria as the decidua

spongiosa contain large number of coliform bacteria, a continuing source of infection. Jeffcoate (1975) said "severe injury or gangrene of uterus calls for hysterectomy and this operation has a place in the treatment of cl. welchii infection."

In the present series, it has been noted that laparotomy and removal of septic focus was followed by rapid improvement of general condition in majority of cases. Douglas and Beckman (1966) have also reported seeing the blood pressure rise immediately after operation and they believed that removal of the uterine focus had a profound effect in the outcome.

Out of 28 cases in the present series there were 8 deaths giving the mortality rate of 28.5 per cent. During the same period laparotomy was not done in 43 cases of septic abortion complicated with peritonitis and the number of deaths in this group was 22, giving the mortality rate of 52.1 per cent. Retrospective study of these cases leaves the impression that aggressive surgical treatment might have saved some of these cases. Baxi *et al* (1971) also admitted that surgical treatment in the form of laparotomy and drainage of pus or hysterectomy could have saved some of the cases of grade III infection in their series.

The timing and the extent of surgery are vital in these poor-risk patients. In 3 out of 8 postoperative deaths in this series, decision for laparotomy was delayed and in 2 cases who had features of endotoxic shock perhaps more aggressive treatment in the form of hysterectomy would have been more rational rather than simple drainage of pus. Earlier surgical intervention and adequate surgery could have saved these 5 cases. Of the remaining 3 deaths, 2 went into abrupt vascular collapse despite intensive medi-

cal treatment and appropriate surgery and one died of postoperative pulmonary embolism.

The purpose of surgical treatment is to remove the source of infection and toxicity and surgical intervention should be done at a time when operation can be performed with greatest benefit to the patient. The time and type of operation will vary from case to case. Each case will require individualised evaluation, careful judgement and treatment.

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