AGGRESIVE MANAGEMENT IN SEPTIC ABORTION WITH PERITONITIS

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Abortion is still the leading cause of maternal deaths not only in the developing countries but also in the progressed one. Considering the fact that most of the deaths in abortion are confined to the septic group and that too in grade III, a critical evaluation of the role of aggressive surgery in such cases has been contemplated in an attempt to improve the maternal salvage.

Material

The material was from the prospective study of grade III abortion cases admitted at N.R.S. Medical College, Calcutta and concerned the period March to December, 1979. During this period there were 1,110 abortion cases admitted, out of which 93 (8.4%) were septic with 24 of grade III, giving a frequency of 25.8%. Laparotomy was done in 16. Thus the frequency of laparotomy in relation to total septic abortion cases and to that of grade III being 17.2% and 66.7% respectively. Detail analysis of 16 laparotomies has been presented.

Patient Profile: Six were unmarried and 7 belonged to parity 4+. Pregnancy was confined to first trimester in 9 and in 2 the duration exceeded 20 weeks. History of interference could be elicited in all the cases. Materials used were stick in 4, D + E (outside) in 4, catheter in 3, herbs root in 2, tablet in 1 and unknown in 2. Persons involved in the interference were doctor in 8, midwives in 4, quacks in 3 and self in 1. Two cases were admitted within 24 hours and 11 were admitted after more than 7 days. Evidences of peritonitis were present in all the cases. In addition hypotension was present in 10 and features of toxoemia in 3.

Investigations

After admission, high vaginal and cervical swabs were taken for aerobic culture in 10. E. Coli was found in 6, Staph. Pyocyaneous in 2, and the combination was found in 2. Anoerobic culture was done in 2 only and in both cases bacteroids and anoerobic streptococci were found. Blood was examined for Hb%, T.C. and D.C. and urine was examined as a routine. Anaerobic culture of pus collected during laparotomy was done in 9. E. Coli was found in 4, Klebsiella in 1, Staph. Pyocyaneous in 1 and there was no growth in 3.

Therapy: This consisted of intravenous fluid infusion, gastric suction, blood transfusion as and when necessary or available and hydrocortisone in selected cases. Parenteral Chloramphenicol or Gentamycin was given as a routine. In

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addition Metronidazole (Flagyl) 1 gm. dissolved in 100 c.c. distilled water was given as low retention enema twice daily for 5-7 days as a routine except in 1 case.

Interval Between Admission and Laparotomy: Laparotomy was done within 24 hours in 6 cases and within 48 hours in 8 cases and was delayed more than 7 days in 2 cases. The cases were grouped into two according to the attitude taken towards surgery; (a) Purposeful conservatism followed by early surgery in 14 and (b) Protracted conservatism followed by late surgery in 2.

TABLE I
Pathology Detected

Free pus in general peritoneal cavity	8
Locculated pus	6
Bread and butter adhesion of intestines	2
Foreign body (stick-6")	1
Gangrenous uterus	2
Perforation of uterus	7
Small gut injury involving the lumen (at two places)	1
Avulsion of segment of small gut	2

TABLE II
Surgery Following Laparotomy

Only drainage of pus	6
Hysterectomy	4
Hysterectomy with resection anastomosis of gut	2
Repair of uterine rent	2
Repair of uterine rent and repair of intestinal injuries	1
Removal of stick	1

Perforation of uterus was found in 7, gut injury was found in 3, locculated pus was found in 6 and a foreign body was found lying in peritoneal cavity.

Hysterectomy was done in 6, 4 for uterine injuries and 2 for gangrenous state. Subtotal was done in 5 and total hysterectomy was done in 1. In all the cases bilateral drainage was put through the flanks.

Morbidity: Morbidity included persistence of fever in 4, thrombophlebitis in 1, abdominal wound dehiscence in 2 and foecal fistula in 2. Relaparotomy was done in both the fistula cases one after 6 weeks and the other after 8 weeks—following primary surgery.

Mortality: There were 2 postoperative deaths, one after 15 hours and the other on 4th day both confined to group B. Only bilateral drainage was put in 1 and hysterectomy with resection anastomosis was done in the other.

Discussion

Despite the implementation of M.T.P act, cases of interfered pregnancy with evidences of gross spreading infection are met with increasing frequency specially in referral institution of the country. The same trends have been observed in the institution.

Clinicopathological state of grade III septic abortion varies widely depending

TABLE III
Trends in Incidence of Septic Abortion, of III and of Fatality of Septic Abortion at N.R.S. Medical College, Calcutta

Year	Septic Abortion		Grade III		Maternal death in Septic Abortion	
	No.	%	No.	%	No.	%
1970-72	202	9.0	25	12.4	9	4.4
1973-75	337	10.6	53	15.7	24	7.1
1976-78	291	7.2	62	21.3	38	13.0
Present series	93	8.4	24	25.8	2	2.1

upon the methods of interference, number and virulence of organism and resistance of the host—local and systemic. The patient characteristics of the grade III septic abortion in the present series are almost identical with that of previous published series from the said institution by Ganguly *et al* (1978). Evidences of peritonitis with or without hypotension were the predominant manifestation.

The portal of entry of infection into the peritoneal cavity may be:

1. Through the oviduct by continuity or by lymphatics from the cervical injury.
2. Rupture of the microabscesses formed in the mycmetrium.
3. Through injury of the uterus.
4. Through injury of the gut.

Single or most often multiple factors are responsible for peritonitis. Absorption of toxin from the greater surface area of the peritoneal cavity leads to clinical manifestation of endotoxoemia as evidenced by hypotension in 10 and features of toxaemia in 3 in the present series.

Modus operandi in tackling such cases of peritonitis are to combat infection, surgery as and when necessary to drain the pus, and/or to tackle the portal of entry of infection and to give supportive therapy to bring down the normal hoemostatic and cellular metabolism.

The Control Infection: In recent years involvement of non-closteridiol anoerobes in septic abortion has been emphasised by good number of investigators. Pearson and Anderson (1970b) estimated that 10-15% of all cases of septic abortion were associated with bacteroids. In view of the universal anoerobicidal activity of metronidazole, the conventional broad spectrum antibiotic therapy was combined with Flagyl in all but 1 case.

Active Surgery: Controversy widely prevails as regards aggresive surgery in grade III even with peritonitis. Schwartz (1968), Cavanagh *et al* (1964), Banshi *et al* (1971) advocated aggresive management in peritonitis to prevent complications like septic shock and oliguria. Douglas and Beckman (1966) and Duncan Reid (1967) extended radial surgery in endoxic shock. Chakravarty *et al* (1976) while publishing the first series from this institution emphasised the advantages of active management in grade III septic abortion.

Rationale of Active Surgery: As already pointed out there are often multiple factors responsible for peritonitis and all are not amenable to conservative treatment. The distinct advantages of active surgery in optimum time are:

1. In accordance with accepted surgical principle antimicrobial therapy can in no way replace surgical drainage whenever there is collection of pus. In all the cases in the series, pus was present freely in 8, locculated in 6 and in 2 there were bread and butter adhesions.

2. To tackle such pathology as uterine perforation, or intestinal injury which are at times difficult to detect clinically and only be revealed on laparotomy. In fact, uterine rent was found in 7, avulsion of segment of small gut was found in 2 and a stick (6″) was lying in the peritoneal cavity in 1 in the present series.

3. To remove the source of severe infection with gangreneous uterus which was revealed twice in the present series.

Time of Surgery: It is indeed difficult to categorise the end point of conservative treatment. Only through experience and clinical acumen it is possible to select out the patient for surgery in optimum time. One should not drag the conservative treatment too long considering the fact that the patients after the initial event are

on antibiotic therapy for quite considerable time before they are admitted.

Extent of Surgery: Considering the high-risk patient with unforeseen extent of surgery, laparotomy is to be done by an experienced person with a skilled anaesthetist. Necessity of repair of intestinal injury in 1 and resection anoestomosis in 2 in the present series demand a general surgeon to stand by during laparotomy. Thorough inspection of gut (gut injury remained undetected in 1 case), to break the loculi for drainage of pockets of pus and thorough inspection of pelvic organs are mandatory before proceeding to definite surgery. Removal of uterus should be done by its own merit irrespective of parity. Gangrenous uterus whether intact or associated with perforation dictates hysterectomy. A firm uterus with glossy peritoneum may be preserved if necessary even in the presence of small clean cut perforation which may be sutured (3 in the present series). Adenexa is to be removed or preserved according to the pathology found. The theme is to remove as much of the infected tissue as practicable in such gravely ill patient as quickly as possible.

Result

Variation in the clinical pattern of grade III in different geographic areas, selective admission of serious and complicated cases in particular referral hospital and lack of uniformity in the attidue towards management protocol make the subject difficult and unfair for comparative analysis amongst the published series.

Although the result of laparotomy was found better than conservative treatment in the previous years in the institution, yet the maternal deaths were pretty high in laparotomy cases. Marked reduction of maternal deaths in laparotomy cases in the series was due to adoption of a changed attitude. Not only more number of judicious and timely laparotomies (66.7%) with appropriate surgery were done but at the same time attention was paid to fight against the non-sporing anaerobic infection so far ignored with addition of metronidazole (Flagyl). Judicious extension of conservative treatment has got its place with good dividend evidenced by survival of all the patients so instituted in the series.

Conclusion

Aggressive management in the form of laparotomy and appropriate surgery has got a distinct advantages over purposeless conservative treatment in the management of grade III septic abortion with peritonitis. Underlying unforeseen graver pathology could only be revealed on laparotomy and desparate attempt to

TABLE IV

Maternal Deaths in Laparotomy and Conservative Treatment in Grade-III at N.R.S. Medical College and Hospital

Year	Laparotomy			Conservative		
	No.	M.D.	%	No.	M.D.	%
1972-76 (Ganguly et al 1978)	28	8	28.5	43	22	52.1
1977-78	18	8	44.4	30	17	56.7
Present series (March to Dec. 1979)	16	2	12.5	8	—	—

deal with the pathology in desparate circumstances could save few more patients which would have been surely lost if left unoperated. Judicious selective conservatism has however got its place and only good deal of clinical acumen can foretell its discretion. Early laparotomy with judicious extension of surgery and drainage of pus is the key succcess and the bad result so often mentioned is due to late decision in laparotomy and/or inadequate surgery.

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