

UTERINE PERFORATION—A COMPLICATION OF M.T.P.†

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Abstract

Neglect in the diagnosis of perforation of uterus during M.T.P. can be more risky than an active intervention. Twenty cases of uterine perforation during M.T.P. occurring during the years 1972-77 are presented. The commonest offending instrument was the curette used for check curettage (7 cases) and cornual regions were the common sites of perforation (7 cases). Perforation occurring with prostaglandin termination are more extensive and may require hysterectomy. The place of conservative treatment in induced abortion is minimal except in cases of MR where diagnosis of pregnancy is in doubt and the offending instrument is the uterine sound.

Introduction

Induced abortion at any period of gestation exposes a woman to the risk of complications that can vary considerably depending on the circumstances under which the abortion is performed and the skill of the operator. The severity of

complications also varies widely from very minor complaints to the not so rare fatal outcome. Among the complications of concern during the vaginal procedure are perforation of the uterus by one of the instruments used for evacuation, haemorrhage and shock of serious nature requiring transfusion, readmissions for incomplete evacuations and sepsis. Late somatic complications or sequelae of induced abortions is another area of concern.

Material and Methods

During the period April, 1972 to March, 1977, 4,647 Medical terminations were undertaken in the deptt. of Obst. & Gynec., Nehru Hospital, Postgraduate Institute of Medical Education and Research, Chandigarh. Each case was examined, pregnancy confirmed by immunological test whenever necessary, the various risks and probable complications were explained and the cases were then accepted for termination. Initial haemoglobin and urine analysis was carried out in each case.

A retrospective study was undertaken in order to analyse cases of uterine perforation complicating M.T.P. and to identify factors which affect the occurrences of this complication so that such an episode can be avoided.

Results

During the 5 years of study, 20 uterine

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†Paper read at the XXI All India Congress in Obstetrics and Gynaecology, Cuttak 28-31st Dec. 1977.

perforations (0.43%) occurred, 16 in first trimester cases and 4 in second trimester cases.

The age of the 20 patients ranged from 21-40 years, majority being in the third decade, (Mean: 27 years). Parity ranged from 0 to 4. Sixteen (80%) were first trimester and 4, (20%) were second trimester evacuations.

The offending instrument in the study cases are detailed in Table I. During

TABLE I
Instrument Causing Perforation

Instrument	No.	%
Uterine sound	4	20.0
Metal Cannula	3	15.0
Hegar dilator	1	5.0
Check curettage	7	35.0
Prostaglandin	3	15.0
Not identifiable	2	10.0
Total	20	100.0

suction evacuation 13 perforations occurred, the check curettage being the commonest procedure responsible for perforation in these cases. However in 3 cases the suction cannula caused the perforation. In the 4 cases of second trimester abortions rupture of uterus occurred with prostaglandins in 3 cases and in the fourth case following expulsion of fetus and placenta with prostaglandin, perforation occurred while doing the check curettage and this patient was kept for observation.

Table II indicates the site of the uterine perforation as identified at laparotomy. The perforation was more common at the fundus than the isthmus and the site of perforation seems to be related to the position of the uterus at operation being in the isthmus in retroverted uterus. However, in the 2 cases of rupture with prostaglandin the tear was found in the posterior part of the lower segment

TABLE II
Site of Perforation

Site	No.	%
Cornual regions (Corpus)	8	40.0
Isthmus	4	20.0
Rupture Uterus Suspected (Kept for observation)	4	15.0
	5	25.0
Total	20	100.0

extending on to the broad ligament, and in the third case it was on the anterior aspect of isthmus. However, 5 cases were kept under observation and in them the site of perforation could not be ascertained. Laparotomy was undertaken in the remaining 15 cases resulting in hysterectomy in 3 cases of rupture uterus with prostaglandin, rent repair and anterior hysterotomy in 8 cases, while in addition tubal ligation was performed in 4 cases, (Table III). Postoperative period

TABLE III
Management

	No.	%
Observation	5	25
Laparotomy	15	75
Rent repair and Hysterotomy	8	
Rent repair, hysterotomy and Tubal ligation	4	
Hysterectomy	3	

was uneventful in all the cases and all were well at the time of discharge.

Discussion

The incidence of perforation of uterus with legal abortions varies considerably, Russel (1972) 0.5% of first trimester abortions by vacuum aspiration, Novak (1970) and Stallworthy *et al* (1971), report 0.0025-1.7% and Moberg (1976)

0.64%, these figures correlate with the incidence of present study (0.43%). Perforation of uterus as a complication of diagnostic dilatation and curettage has been reported by Logawney *et al* (1976).

Various factors seem to be responsible for perforation during suction aspiration, most important being the skill of the operator, the size, position and softening of the with pregnancy. In rare instances unco-operative patients may end up with a perforation of the uterus. In the present study, in 3 cases perforation was caused by house surgeons while sounding the uterus. Cases of lactational amenorrhoea, where clinical diagnosis of pregnancy is difficult in the early weeks are potential candidates for perforation. In such cases pregnancy should be confirmed by an immunological pregnancy test before undertaking an abortion. In the present series 3 such cases had perforation, requiring laparotomy in 1.

The routine use of uterine sound to assess the uterocervical length and confirm the direction of uterine cavity should be abandoned, as in 4 (20%) cases the sound was responsible for perforation. Though the damage caused by the sound is least as compared to a curette or a cannula but the risks can be reduced by avoiding the uterine sounding. In Moberg's (1976) series the uterine sound, dilator and suction curette were equally responsible for the perforations, but the damage caused was greatest with the curette.

In our series the position of the uterus did not seem to contribute significantly to perforation, as has been reported by Nathanson (1972) where 58% cases had retroverted uterus. However, it seems that risk of perforation is more where there is a discrepancy in the assessment of uterine size and position of the uterus, hence the

need for careful evaluation of uterine size prior to the procedure. There was only 1 case of perforation with the cervical dilator and it seems that the achievement of cervical dilatation routinely with extra-amniotic or intramuscular 15 (S) 15 methyl PgF_{2x} or vaginal suppositories as suggested by Topozada *et al*, (1973) and Borell *et al* seems unnecessary, for routine termination of uterus less than 10 weeks of pregnancy. However, the other disadvantages of mechanical dilatation of cervix are yet to be studied especially cervical incompetence. In the present series, there were 4 cases of rupture uterus following prostaglandin induction and in the fourth case fetus and placenta having had been expelled after induction. In the first 3 cases laparotomy had to be undertaken, resulting in total hysterectomy. In our experience, the cervix and uterus are found to be very soft during evacuation of placenta in cases of prostaglandin termination and the risk of perforation is great.

Neglect in the diagnosis of perforation of uterus during M.T.P. is more risky than an active intervention. Whenever in doubt, it is better to keep the patient under observation for signs and symptoms of shock, intraperitoneal haemorrhage and peritonitis. Surprisingly the immediate signs are few and the diagnosis is presumptive, made by the operator when the instrument goes in easily without any resistance for a length greater than anticipated for that period of gestation. However, rarely a piece of omentum may be pulled down with the suction or the sharp curette. In the present series, 5 cases were kept under observation where perforation had occurred with a sound (3 cases), with check curette at the end of the procedure (2 cases) and in the remaining 15 cases laparotomy was undertaken. The rent

was commonly found in the corpus (8 cases) and near the cervical region (4 cases). However, in 3 cases of prostaglandin termination the rent was quite ragged on lateral side of lower segment extending towards broad ligament, avulsing the uterine vessels, so that hysterectomy had to be undertaken. In suitable cases, repair of the rent, curettage through an anterior hysterotomy wound followed by bilateral tubal ligation, is the right procedure. However, in 2 cases of the present series after the repair of the rent abdominally, dilatation and evacuation was done vaginally under vision in order to avoid hysterotomy. Lanersen and Birnaum (1973) suggest laparoscopy for cases of instrumental uterine perforation during first trimester abortions, as the procedure is safe and minimizes hospital stay. In such cases abortion can be completed by suction or sharp curette and intraabdominal bleeding controlled by cauterization under laparoscopic observation.

Surprisingly, the postoperative period in all cases was smooth and satisfactory as compared to cases of perforation and laparotomy following induced septic abortions.

Conservative management in the presence of an intact pregnancy has its own risk. With the subsequent increase in uterine size, the site of perforation heals poorly and if the patient aborts, a curettage may be required to complete the abortion, which would be hazardous in the presence of a recently healed perforation. Conservative management is perhaps applicable for cases where pregnancy is in doubt as in cases of lactational amenorrhoea, pill failure, or if perforation has

occurred at the end of the procedure. Thus, the risk of perforation during medical termination of pregnancy can be reduced by:

- (1) Use of accurate judgement in assessing the uterine size.
- (2) Avoid routine use of the uterine sound.
- (3) Using gentleness all through the procedure of abortion.
- (4) Careful monitoring of the cases when prostaglandins are used for pregnancy termination.
- (5) In suspect cases of perforation observation for sign of intraperitoneal bleeding and peritonitis.

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