

Iatrogenic Bowel Injuries Following D & C

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Iatrogenic bowel injuries are a major cause of maternal morbidity and mortality. Comparison of complicated cases of Dilatation and Curettage done in the hospital with those referred after some form of complication of the same procedure done outside the hospital revealed a significantly higher prevalence ($p < 0.05$) of bowel involvement amongst the referred cases. Post treatment results were encouraging and no maternal death occurred in the hospital operated group however 7 out of 40 mothers died amongst the referred group ($p < 0.05$). We reached at the conclusion that maternal morbidity and mortality due to bowel injuries can be lowered significantly by early surgical intervention and policy makers should take notice of this sensitive issue to abolish performance of this procedure by unqualified personnel and in unsupervised environment.

Key words: Iatrogenic, Perforation, Dilatation and Curettage.

According to Asian Development Bank report of 1997, 3,000 women die each year due to pregnancy related complications¹. Out of them almost 3,300 deaths are due to abortions². World wide some 20 million unsafe abortions take place each year³. In contrast to this deaths from unsafe abortions are almost unknown (0.4/100,000) in countries where abortion is available on request⁴.

Dilatation and Curettage is the most common method of termination of pregnancy. The major complication is uterine perforation, which can lead to significant sequel of hemorrhage, infection, intestinal injuries, incarceration of bowel and even its herniation through the vagina.

Diagnosis is mostly on clinical grounds and if perforation is suspected at the time of D & C laparoscopy should be performed to confirm the diagnosis but if in doubt laparotomy remains the main stay of treatment. Delayed presentation of an acute complication is rarely observed⁵. When perforation is suspected laparotomy is undertaken to check the state of bowel throughout its length because when lesions of the digestive tract are treated rapidly the results are good whereas when there is delay in treatment due to any reason the outlook is dismal.

Aims and objectives

The aim of the present study is to highlight the prevalence of iatrogenic bowel injuries following D&C in the hospital population. We also aimed to see the degree and extent of injuries amongst complicated cases of D&C done in the hospital and to compare with cases, which were referred after the same procedure done outside the hospital.

Patients and methods

This is a retrospective study conducted over a period of 3 years from June 99 to June 2002 by joint collaboration of Gynae Unit-1 and Surgery Unit-1 of Sir Ganga Ram Hospital, Lahore. The patients were divided into 2 groups. Group 1 included all complicated cases of D&C done in the hospital for pregnancy related indications and needed surgical intervention. Group 2 included those cases that

were referred after some complication of the same procedure done outside the hospital. All cases that were managed conservatively were excluded from the study groups. Medical records were scrutinized to see the clinical presentations, intraoperative findings and the procedure performed. Student t test was applied and p value calculated to assess the degree of significance. $P < 0.05$ was considered to be significant.

Results

During this period there were 269 D&C's performed for obstetrical indications and 15 patients needed surgical intervention for some complications giving a prevalence of 5.5%. A total of 40 referred cases required surgical intervention.

A good fraction (80%) of cases were operated with in 12 -24 hours of D&C. However 4% were intervened after 48 hours. The prevalence of gut and omental prolapse through vagina was significantly higher in the referred group ($p > 0.05$). Other complications that occurred were hemorrhage, shock, acute abdomen and sepsis.

Intraoperative injuries noticed were uterine perforation, small and large bowel perforation and small bowel lacerations. Significantly higher prevalence of uterine and small bowel perforation were noticed in the referred group ($p < 0.05$).

Table 1 Comparison of clinical presentations among two groups (Percentile distribution):

Clinical presentations	Group 1 (n=15)	Group 2 (n=40)	P- Value
P/V bleeding / Shock	33.3	15	NS
Gut prolapse	13.3	40	S
Acute abdomen	20	5	NS
Sepsis	26.6	7.5	NS
Omental prolapse	6.6	32.5	S

Group-1: All complicated cases of D & C's done in the hospital

Group-2: All complicated cases of D & C's referred after the procedure outside the hospital

NS: $P > 0.05$ (Not significant)

S: $P < 0.05$ (Significant)

Procedures performed are illustrated in Table-3. Commonest procedure performed was resection and end to end anastomosis done in 18.9% cases. There was no maternal death in group-1 while 7 cases out of 40 died in the referred group giving a mortality of 17.5%.

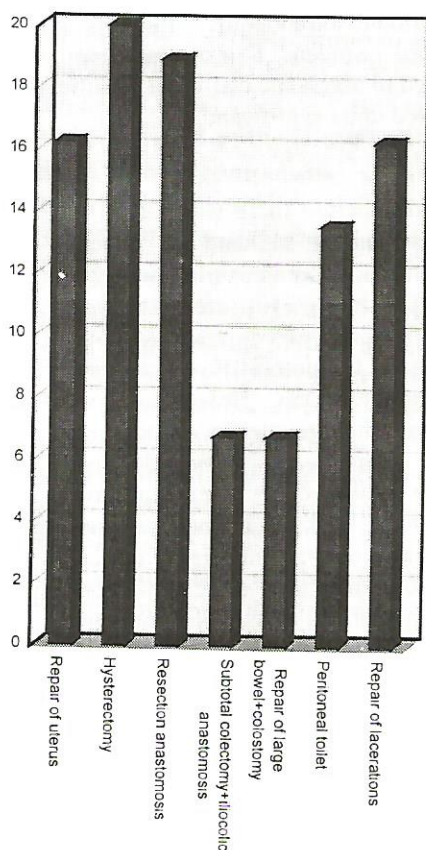
Table 2. Comparison of intraoperative findings among the two groups (Percentile distribution):

Injuries	Group-1 (n ₁ =15)	Group-2 (n ₂ =49)	P value
Isolated uterine perforation	6.6	32.5	S
Small bowel perforation	13.3	40	S
Large bowel perforation	13.33	5	NS
Small bowel laceration	33.33	7.5	NS
Pus in the peritoneal cavity	33.33	5	NS

NS= P>0.05 (Not Significant)

S = P< 0.05 (Significant)

Fig. Percentage distribution of procedures performed



Discussion

Uterine perforation and bowel injuries are the major complications after unsafe D&C. Due to social reasons and improper documentation the exact magnitude of the problem is unknown in Pakistan. In developed countries where facilities for legal termination of pregnancy are

available the incidence of these complications has decreased. Beck reported from General hospital Osijek that from 1974-1977 out of 15,716 legal abortions and 2323 abortions completed in the hospital there were 16 perforations (0.08%), 2 of them included injured intestines⁶. We noticed 5.5% prevalence of complications following D&C in the hospital. Two patients had gut prolapse through the vagina. However a statistically significant number of patients amongst the referred group had gut prolapsed (Table 1). As reported by Hord most of these D&C's are carried out by Dai's and untrained persons for illegal abortions⁷.

Majority of our patients had D&C's done at a gestational age of less than 12 weeks 47.6% which is comparable to a study conducted by Yusuf in Ethiopia where pregnancies less than 12 weeks from the last menstrual period accounted for 50.5%⁸. The main reason to bowel injury is the use of sharp curettage however with second trimester abortions perforation can result in injury to abdominal viscera from the perforating instrument or even from sharp fetal bony structures⁹. We noticed more perforations when the gestational age was above 12 weeks which is comparable to a study conducted by Zhou in Denmark who found more side effects in teenage women and for abortion performed late in pregnancy¹⁰.

Complications do occur while doing D&C's in hospital. Khanum in her study at Jinnah hospital reported sepsis as the most common complication¹¹. We noticed in our study that there is a good fraction of patients with bowel injuries amongst the referred cases and prevalence of bowel injuries is significantly lower in hospital operated cases (Table 1). This highlights that although complications can occur but in a supervised environment the dreadful complications of bowel injuries are less prevalent.

Post-surgical results were encouraging. There was no mortality in Group-1 however seven patients in Group-2 died giving a mortality of 17.5% ($p < 0.05$). This was because of the fact that due to our social and religious setup there is a criminal delay in referral of these patients, which further complicates the situation and leads to irreversible shock and septicemia¹¹. Early recognition of gut and other visceral injuries is vital¹². The key to reduce the mortality following bowel injuries is early recognition and prompt treatment¹³.

Conclusion

We attempted to address the issue of high maternal morbidity and mortality associated with D&C. Amongst all the complications of D&C the prevalence of bowel injuries is significantly higher in the referred group ($p < 0.05$). This is because of the fact that unqualified personnel outside the hospital perform the procedure in very poor and unhygienic environment. No maternal death among Group-1 illustrates that early recognition and prompt treatment can reduce the maternal mortality significantly.

Therefore the policy makers should take notice of this sensitive issue and implement programs for performing surgical procedure under supervised circumstances.

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