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Research Article

Auditing the Use of Dilatation and Curettage Method in Treatment of Miscarriage during the First Trimester in Private Hospitals, Sharq Elneel District, Khartoum, Sudan

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Abstract: Different methods for treatment of miscarriage and termination of pregnancy have evolved over the years; of those dilatation and curettage (D&C) is a traditionally used method. The objective of the study was to determine the safety of D&C, its rate of complications and predisposing risk factors. A prospective cross-sectional study was carried out in private, Sharq Elneel district hospitals. It included all patients who underwent D&C in their first trimester between January 1, 2012, and December 31, 2012. Frequency and incidence of complications were determined by Chi square and Fisher's exact tests and compared to reported statistics. The obtained incidence of complications was 4.3%. It was affected by the parity of patients (P =0.014), but not with operators, type of abortion, gestational age, patients' age and past history of caesarian section (p values were 0.6, 0.3, 0.9, 0.9 and 0.1 respectively). In conclusion, the current study suggests that dilation and curettage is a safe and effective procedure for first-trimester termination of pregnancy.
Keywords: Abortion; Dilatation and curettage; Complications; Risk factors.

INTRODUCTION

Abortion is the termination of pregnancy by expulsion of an embryo from the uterus prior to viability [1]. Some studies suggested that 20% of all pregnancies worldwide end in abortion [1-3]. It is estimated that 30-50% of all women undergo at least one induced abortion during their lifetime [2].

We can classify abortion clinically into different types as follows: Incomplete abortion, if bleeding has begun and the cervix is dilated but part of the tissue from pregnancy still in the uterus [4]. Inevitable abortion, a condition of pregnancy in which spontaneous termination is imminent and cannot be prevented; it is characterized by bleeding, uterine cramping, dilatation of the cervix and presentation of the conceptus in the cervical os. Missed abortion, is a common complication of early pregnancy occurring in up to 15% of all clinically recognized pregnancies [5]

Surgical abortions can be performed by different methods including manual vacuum aspiration (MVA) or electric vacuum aspiration (EVA), dilatation and curettage (D&C). These methods are all safe and effective [6]. Dilation and curettage (D&C) has been the traditional treatment throughout most of the 20th and 21st centuries [7].

First trimester abortion is a simple and commonly performed procedure. However several complications can arise. Early complications include uterine perforations, blood loss, retained product of conception, post-abortion secondary hemorrhage, endometritis, pelvic infections and peritonitis [8-10].

Late complications are less defined and may include secondary infertility, ectopic pregnancy, cervical incompetence, endometrial synechiae and endometriosis 8,9,11. Uterine perforations are usually recognized at the time of the procedure [9]. Complications can endanger the life of mother if proper medical or surgical intervention is not offered in time [12].

Deaths due to unsafe abortion are associated with infection, haemorrhage, uterine injury and the toxic effects of agents taken by mouth or injected into the uterus to induce abortion [2, 11].

Incidence of uterine perforation varies from 0.4 to 15 per 1000 abortions as reported by different studies. Although most uterine perforations at the time of curettage during first trimester abortion go unrecognized and untreated serious complications do occur [9].

Inexperienced physicians have been reported to perforate the uterus more frequently than experienced physicians. An illegal abortion by unqualified inexperienced hands without or with minimal medical knowledge in rural society of developing countries is not uncommon [12].

PATIENTS AND METHODS

Prospective cross-sectional study to all patients in their first trimester of pregnancy who underwent D&C between January 1, 2012 and December 31, 2012 was performed at private hospital in Sharq Elneel district by a single obstetrician and many registrar covering obstetrics and gynecology outpatients of these hospitals.

Procedure was performed with intravenous line in situ, the patient is positioned in the lithotomy position with legs in stirrups or foot rests. Intravenous sedation by diazepam and catamine were used. Bimanual examination confirms uterine orientation. Speculum insertion procedure performed using an "aseptic, no touch" technique after cleansing the perineum. After insertion of a sterile speculum the cervix is cleansed with gauze soaked in antiseptic. Although gloves are used, we used to avoid touching the patient or gloves with portions of the instruments that will enter the uterine cavity.

The anterior lip of the cervix is grasped with a nontraumatic tenaculum. Uterine sound is inserted gently until it reaches the dome of the uterus. The depth of the sound helps guide the depth to which other instruments should be inserted for evacuation. Pratt dilators are then used to dilate the cervix.

To facilitate the introduction of a sharp curette, a minimum of number 7dilator and size of curette needs to be inserted. Patients expected to be discharged the day of D & C. Antibiotics as prophylaxis or treatment usually given accompanied by analgesics for cramping and pain. Contraception, if needed, started on the day of surgery.

Institutional Review Board approval was obtained prior to conduct the study. Demographic and obstetric characteristics data were collected using a pretested questionnaire. The demographic information included maternal age, gravidity, and parity.

Obstetrical data included approximate gestational age at time of D&C, and number of prior D&C procedures,

Chi-square and Fisher's exact tests were used to calculate the frequency and incidence of the following complications and the risk factor. Data were compared to previously recorded incidences in the literature and texts.

RESULT

A total of 116 D&C procedures were performed from January 1, 2012 to December 31, 2012. The mean maternal age at D&C was 28.67 ± 6.86 years (Range, 16 – 46 years). The mean gestational age at D&C was 9.6 ±1.5 weeks, ranging from 2–12 weeks. There were 91 (78.4%) multipara. 34 patients had a previous abortion and 16 had caesarian section. The incomplete abortion was the most common type of abortion in this study as seen in 69.8% (Figure 1).

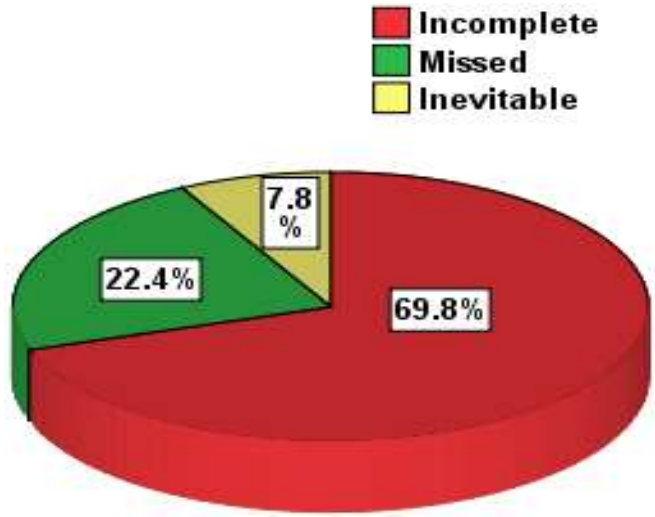

Fig. 1: Types of abortion in study group (n=116)

Procedure was performed by consultant obstetrician in 92 patients (79.3%) and by registrars of obstetrics and gynecology in reminder 24 patients (20.7%). All patients were given antibiotics as prophylaxis. The complication was observed in only 5 cases with incidence of complications of 4.3% in the form of bleeding, perforation and infection that occurred in 2 (1.7%), 2 (1.7%), and 1 (0.9%) respectively. There was significant correlation between the development of complication and the parity of the patients (P =0.014). On other hand there was no significant difference (P > 0.05) in complication rate between operators, type of abortion, gestational age, age of the patients and past history of caesarian section as p values were 0.6, 0.3, 0.9, 0.9 and 0.1 respectively (Table 1).

Table 1: correlation between complications and some risk factors (n=116)

Risk factor		Complication			Total No	P value
		Bleeding	Perforation	Infection		
Operator	Consultant	1	1	1	3	
	Registrar	1	1	0	2	0.6
Total		2	2	1	5	
Abortion	Incomplete	1	1	1	3	
	Missed	0	1	0	1	0.3
	Inevitable	1	0	0	1	
Total		2	2	1	5	
Parity	Nulliparous	0	0	0	0	
	Multiparous	2	2	1	5	0.014
Total		2	2	1	5	
PH of C/S	No	2	1	1	4	
	Yes	0	1	0	1	0.1
Total		2	2	1	5	

DISCUSSION

In healthy women, maternal age is the best documented risk factor for spontaneous abortion. In a large population-based study aimed to estimate the association between maternal age and fetal death (spontaneous abortion, ectopic pregnancy, and stillbirth), 13.5% of pregnancies ended with fetal loss. At age 42 years, more than half of the pregnancies resulted in fetal loss. The risk of a spontaneous abortion was 8.9% among women aged 20–24 years and 74.7% among those aged ≥45 years. High maternal age was a significant risk factor for spontaneous abortion irrespective of the number of previous miscarriages, and parity [13]. But in the current study the abortion was common in middle age group and not affected by maternal age as the mean maternal age was 28.67 years, and the mean gestational age at D&C was 9.6 weeks, this is in concordance with the result reported in literature [2, 9].

First trimester miscarriage surgical abortion using D&C is a simple and commonly performed procedure. However several immediate complications can arise [9]. The incidence of immediate complications we encountered was 4.3%, this was higher than that reported in literature as the overall rate ranging between 0.01% and 1.16% 8. The higher rate of complications in the current study might be due to the small sample size of study group (116 patients).

The use of intravenous antibiotics for low-severity cases with no evidence of infection is unnecessary and not cost-effective [14]. It is our policy to give prophylactic antibiotics prior to evacuation.

The important determinants of this complication are the skill of the physician [9]. In the current study operator skill had no effect on the overall complication rate.

Regarding our study groups, we found that there were statistically significant differences regarding the occurrence of complications and parity; whereas no previous studies had been done to explain such correlation.

On the other hand, there were no statistically significant differences as regards the type of abortion, gestational age, age of the patients and past history of caesarian section, similar results were obtained by others [2, 4, 13].

CONCLUSION

Complications of first trimester abortion using D&C methods are uncommon. Uncomplicated miscarriage can be more effectively and safely managed using the D&C technique. There is a need for more rational prescribing of antibiotics.

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