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Comparative studies on pre-operative inj carboprost with misoprostol tablets in 12-15 weeks medical termination of pregnancies

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ABSTRACT

Introduction: Induced abortions have earned much popularity in the last few years because of their greater safety and large impact on population control and on untimely or unwanted pregnancy. As many women, due to the lack of awareness, come in the late pregnancy i.e. later first trimester and early second trimester for termination, it becomes difficult to terminate by this method. Carboprost Inj and Misoprostol, are very safe and effective cervical softening agents with low cost, stability in light and climatic variations before the termination of pregnancy.

Materials and Methods: A prospective study using single intra muscular injection of carboprost and misoprostol tablets were administered to 100 patients each and were analysed according to the age, parity, gestational age, extent of cervical dilation achieved, procedure time, amount of blood loss and the complications.

Results and Discussion: Nearly 30% of the patients were between 25 – 34 of age, 88% were married and around 59% were of Parity 1 or 2. Vomiting was the most common type of complication in Group A and highest blood loss was seen among the 14th week of gestation patients in both groups.

Conclusion: Manual evacuation of MTP has always resulted in very good results in early pregnancies but in late pregnancies, the use of Carboprost Inj or Misoprostol is more effective and safe with equally good results

KEY WORDS: Protaglandins, Carboprost Inj, Misoprostol Tablets, Medical Termination, Pregnancy.

INTRODUCTION

Induced abortions have earned much popularity in the last few years because of its greater safety and large impact on population control and on untimely or unwanted pregnancy[6]. The controversy on the issue of induced abortion is well recognised. From the time immemorial, abortions have been practised in the world with or without legal sanctions. It is felt that it is the right of the woman to take the decision on her pregnancy, based on the correct information . Termination of pregnancy by suction and evacuation in the early first trimester has been proved to be a time tested method for several decades[5,8]. As many

women, due to the lack of awareness, come in the late pregnancy i.e. later first trimester and early second trimester for termination, it becomes difficult to terminate by this method. It is difficult even for a well experienced gynaecologist when it comes to termination of pregnancy at 12-16 weeks on account of inherent complications in these cases. Misoprostol, a synthetic Prostaglandin E_1 analogue, which was originally introduced for prevention and treatment of gastric ulcer diseases, been extensively researched for its use in obstetrics. It is now proved to be a very safe and effective cervical softening agent with low cost, stability in light and climatic variations before the termination of pregnancy[1-4]. By vaginal administration, the effects misoprostol on reproductive tract are highly increased. The concentration of the pharmacologically active metabolite of misoprostol – misoprostol acid, is peaked and declines slower than oral administration thereby; the overall exposure to the drug is increased[3]. Therefore, any method which helps in efficient management of termination of 12-15 weeks of pregnancy with least or no complications assumes greater importance.In this study, we have compared the studies on corboprost (15 methyl f2 alpha) which has been chosen for cervical dilatation prior to suction evacuation with vaginal misoprostol tablets in 12 -15 weeks termination of pregnancies.

MATERIALS AND METHODS

A prospective study using single intra muscular injection of carboprost for cervical dialation between 12-15 weeks for termination of pregnancy was conducted at Malla Reddy Institute of medical Sciences during the period Jan 2011 – Dec 2014. A total of 200 patients were included into the study. Carboprost (250 mcg), was given to as a single intramuscular injection to 100 patients, 1 hour before the process of suction evacuation (Group A). Its effect on cervical dilatiation, blood loss and complications was crefully noted. Vital data of the patients was monitored every 15 minutes. Sedation was given intramuscularly by either 30mg of Pentazoline and 25mg phenergan or 10 mg of diazoparm. Patients were then shifted o MTP room, kept in lithotomy position, genital and perineum cleaned and draped. Misoprostol tablets were introduced to 100 patients in posterior fornix of the vagina 6 hours prior to operative procedures (Group B). Normal saline vaginal wash was given to all the patients just before sending them MTP room to remove the remnants of drugs and sedated and preceded as above. Under strict aseptic precautions, the number of dilators that could be passed without resistance was noted. Suction canula of one number less than the dilator was passed and suction evacuation was done followed by check curettage. At the end of the procedure, the following data was noted – cervical dilatation, amount of blood loss, time taken and ease of the procedure, complications, is any. Written consent was taken from all the patents before the start of the procedure.

RESULTS

The results obtained from injection Inj Carboprost and Misoprostol tablets were analysed according to the age, parity, gestational age, extent of cervical dilation achieved, procedure time, amount of blood loss and the complications observed in both the groups.

Table:1: Age wise distribution of patients

	GROUP A (Inj CARBOPROST)		**GROUP B (MISOPROSTOL)**	
AGE	**NO.OF CASES**	**PERCENT**	**NO OF CASES**	**PERCENT**
<19	6	6	6	6
20-24	24	24	17	17
25-29	34	34	17	17
30-34	27	27	40	40
35&>	9	9	20	20

Of the women presented for termination of pregnancy, nearly 30% were between 25 – 34 age group. In group A the percentage in the age group of 30-34 was 27% where as in group B it was 40%

(Table : 1). The least was < 19 years with only about 6%. Above 85% of the women were married while <10% were unmarried or widowed (Table:2).

Table 2: Marital status of patients

	Group-A		**Group-B**	
Marital status	No.of cases	percentage	No.of cases	Percentage
Unmarried	10	10	6	6
Married	88	88	84	84
Widows	2	2	10	10

Most women coming for MTP were para 1 or para 2, (59%), while around 15% showed parity of 0. Very few cases were seen in the Parity 4 (7%). (Table 3)

Table:3 : Parity wise distribution

	Group-A		**Group-B**	
Parity	No.of cases	percentage	No.of cases	Percentage
0	15	15	17	17
1	30	30	37	37
2	29	29	33	33
3	19	19	7	7
4&>	7	7	6	6

Majority of the women were in the gestational period of 12 weeks (53%) followed by 14 weeks (>38%). (Table 4)

Table 4: Gestational period of the patients

	Group A		**Group B**	
No of weeks of Gestation	No of Cases	Percentage	No of Cases	Percentage
10	2	2	-	-
12	53	53	53	53
13	3	3	7	7
14	40	40	37	37
15	2	2	3	3

86 % cases had achieved a dilation of 8mm and above especialy in parity 1 & 2, especially among those in group A, while those with administration of Misoprostol, 4 -7 mm was achieved in most of the cases especially in parity 1. (Table: 5)

Table 5: Dilatation in patients

	Group A			Group B		
Parity	No of cases 3mm (%)	No of cases 4-7mm (%)	No of cases 8mm &> (%)	No of cases 3mm (%)	No of cases 4-7mm (%)	No of cases 8mm &> (%)
0	1 (1%)	4 (4%)	10 (10%)	3 (3%)	7 (7%)	3 (3%)
1		7 (7%)	30 (30%)	3 (3%)	27 (27%)	7 (7%)
2		4 (4%)	25 (25%)	7 (7%)	7 (7%)	10 (10%)
3		1 (1%)	11 (11%)	3 (3%)	7 (7%)	3 (3%)
4 & >		-	7 (7%)	-	6 (6%)	7 (7%)

The time taken for completing the procedure with prostraglandin was 8 – 12 mins in 86% of the cases while only 6% cases were completed in the saame time frame in Misoprostol administered group (Group B). the maximum time frame was 12 – 15 mins (53%) followed by >15 mins in 40% of the cases. (Table 6)

Table 6: Time taken for procedure

	Group A			**Group B**		
Parity	**No of cases**	**No of cases**	**No of cases**	**No of cases**	**No of cases**	**No of cases**
	8-12 mts	12-15mts	>15mts	8-12 mts	12-15mts	>15mts
0	13 (13%)	3 (3%)	-	-	3 (3%)	10 (10%)
1	31 (31%)	5(5%)	-	7 (7%)	17 (17%)	14 (14%)
2	25(25%)	3 (3%)	-	-	10 (10%)	13 (13%)
3	10 (10%)	3 (3%)	-	-	10 (10%)	13 (13%)
4 & >	7 (7%)	-	-	-	13 (13%)	-

Table 7: Blood loss in pateints during surgery

	Group A			**Group B**		
Gestational age in weeks	**No of cases (%)**	**No of cases (%)**	**No of cases (%)**	**No of cases (%)**	**No of cases (%)**	**No of cases (%)**
	50-70ml	>100 ml	>150ml	50-70ml	>100 ml	>150ml
10	3 (3%)	-	-	-	-	
12	39 (39%)	15 (15%)	3 (3%)	-	40 (40%)	13 (13%)
13	3 (3%)	-	-	-	3 (3%)	3 (3%)
14	39 (39%)	1 (1%)	-	-	21 (21%)	17 (17%)
15	-	-	-	-		3 (3%)

More blood loss was seen among patients in later pregnancies 40% in 14 weeks of gestation in Group A and 38% in the same gestational period in Group B.

Table : 8 Complications

Complications	**Group A**	**Group B**
Vomiting	10 (10%)	-
Pain	5 (5%)	9 (9%)
Diarrhoea	2 (2%)	-
Weating & Fall of BP	1 (1%)	5 (5%)
Cervical Tear	1 (1%)	1 (1%)
Imcompletion	-	-
Post Evacuation Bleeding	-	-
Perforation of uterus	-	1 (1%)
Pyrexia and skin Flushes	-	-
Infections	-	2 (2%)

The most common complication was vomiting in group A while in Group B it was abdominal pain.

DISCUSSION

Abortion has earned much popularity in the last decade because of it's greater safety and large impact on poulation control. It is felt that it should be the right of each woman to take a decision on her pregnancy, based upon correct information.The historical evidence is also strong that rapid fertility

dcline is unlikely without some resource to abortion. Many of these abortions occur due to unintended pregnancies[5-6], genetic problems of foetus[7]. An estimated 44 million abortions are performed globally each year, with just less than half of them performed unsafely[8]. This rate is considerably declining as women today have greater access to education regarding family planning and birth control[9]. Abortion in the developed world is considered as one of the safest procedures in medicine if allowed by law[10, 11]. Uncomplicated legal abortions to be available to women worldwide are recommended by WHO[12]. Unsafe abortions however result in maternal deaths and hospitalizations[13]. On a review of 10 years performance after legislation of abortions Soni reported the legal abortions as half a million,being mainly from the urban areas as against illegal abortions illegal abortions being almost 8 times more[15]. Ever since legislation of abortions in several countries,the demand for abortion services has been on an increase.Since the inception of the programme in india in April 1972,over 6.38 million termination's were effected up to march 1989 under the MTP act.Several alternative methods were developed in the past few decades for this indication.Development of safe and effective method for early second trimester abortion is a clinical challenge.During this time uterus is quiescent and unresponsive to stimuli.

The two medications Misoprostol and inj Carboprost are as effective as a surgical method in the first trimester. [16,17] Our study was corroborated by Krofta et al and Fait et al who also found the introduction of prostaglandin to be effective with 72% and 67.2% of women aborting after the first dose respectively[18,19.] We found the maximum number of patients to be in the age group of 25 – 34 years with parity 1 and 2. In a similar study by Rita Nayak et al[23], similar results with over 30 % of women being in the age group of 30% and with around 90 % of them being multi gravida. This was corroborated by Banerjee et al and Shetty et al, who also reported a high number of cases in the same age group and all being multi gravida[20,21]. All the women in these studies were married.. Though our study showed the gestational variation from 10 – 15 weeks, Krofta et al and Munde et al[22] reported cases below 9 week of gestation. The time taken for abortion in Nayak et al study was 12-80 hours while we reported aa time for the procedure to be 8-12 mins. Uterine perforation was seen only in one patient in group B, which was comparable to the study by Rita Nayak et l and Nasira et al where in 1% and 2.4 % were seen respectively[23,24]. We had no case of post surgical bleeding.

CONCLUSION

Although there were extensive study on the use of Misoprostol and inj Carboprost for the termination of pregnancy, there was no correlation found in the age group, parity of marital status of the patient. In many studies, Manual evacuation of MTP has always resulted in very good results in early pregnancies but in late pregnancies, the use of Prostaglandins or Misoprostol is more effective and safe with equally good results.

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