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Early pregnancy termination: Comparison between manual vacuum aspiration and medical method

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Abstract
Background: Early pregnancy termination can be done by surgical and medical methods. Choice of the methods depends upon the period of gestation and women preference.
Aim: To compare the safety and efficacy of manual vaccum aspiration & medical method (with mifepristone and misoprostol) in the management of early pregnancy termination (up to 9 weeks).
Study design - Prospective study
Study time period – 6 month from January 2019 to June 2019
Material and Method:104womenwereselectedfor first trimester abortion up to 9 weeks from outdoor of Department of Obstetrics and Gynecology, PMCH Patna, Bihar.
In group1-women who opted for vaccum aspiration and in group2- women who opted for medical abortion. All women were counselled & explained about both the methods in detail. Women were given the option of selecting medical abortion with mifepristone and misoprostol or manual vacuum aspiration. Those without a preference were randomly assigned to a method. Outcome were measured just after procedure and 14 days post abortion follow up visit.
Result: Most of the women coming for termination of pregnancy belongs to urban area. Méan age of women in group 1 is 26.80 ± 3.63 yrs and in group 227.65 ± 3.50. 10 women were nullipara and majority of them (72.72%) opted for medical abortion. (P. value = <0.05) which is statistically significant showing more inclination of nulliparous women toward non-invasive procedure.12 women were Para-1, 56 women Para-2 & 26 women were multipara. Chi-Square Value is 0.953, Degree of freedom is 2 & P. Value 0.621.Other than nulliparous women there is no significant association between parity and two groups. Average gestational age in Group 1 was 48.9 ± 6.28 days and in Group 2 was 47.2 ± 6.87 days. Most of the patient in less than 42 days gestation opted for medical abortion. Average duration of bleeding in Group 1was6.77 ± 2.86 days and in Group 2 was8.57 ± 3.96 days (pvalue< 0.05).Amount and duration of vaginal bleedingis more in medical abortion group which is statistically significant. Incomplete abortion noted in 2 cases in medical method group. Success rate of MVA was 100% with no product of conception found in any patient were as in medical method the success rate was 96.15% in which two patient had incomplete expulsion.
Conclusion: MVA is more efficacious then medical method in terms of complete evacuation of product of conception, Medical method provide a non invasive alternative choice for early pregnancy termination according to clinical examination and women preference.

Keywords:manual vacuum aspiration, mifepristone, misoprostol, surgical abortion

1. Introduction

There are millions of women who are facing problems due to unwanted pregnancies.MTP act1971, with it's amendment no 64(19dec 2002) facilitate us to deal with those unwanted pregnancies. It intends to provide safe and easily accessible abortion services to women with unwanted pregnancy within 20 wks[1]. Amendment bills were proposed in 2014,2018 and 2019.On October 29,2014, the ministry of health and Family Welfare released a draft of the MTP (Amendment) Bill 2014(1),which proposes changes in the gestational limit for abortion(from 20 weeks to 24 weeks)[2]. 1st trimester abortion will be considered a matter of the woman's choice and a physician opinion will no longer be required. In our country abortion care was marginalised.Various training programmeshasbeenintroducedinIndia for adoption of safe abortion care to reduce maternal mortality and morbidity. These programmes has developed latest knowledge and skill about the abortion care. The World Health Organization has stated that every 8 minutes a women in a developing nation will die of complications arising from an unsafe abortion[3]. The concept of comprehensive abortion care (CAC) encompasses care through the entire period from conception to post abortion care and includes pain management[4,5].This was first introduced in India by IPAS in 2000. It was introduced to provide the women with access to high quality, affordable abortion care in the communities where they live and work.1st trimester abortion can be performed either medically or surgically by several methods. Results with either surgical or medical methods both have a high success rate (95% with medical and 99% with surgical techniques). surgical techniques includes electric vacuum aspiration and manual vacuum aspiration, where as in medical abortion mifepristone and misoprostolwere widely used.Manual Vaccum Aspirator is a safe an effective method of abortion for evacuation of the uterine contents, which is associated with less blood loss, shorter hospital stay and a reduced need for anesthetic drug[6]. Manual

vaccum aspiration is used for elective termination up to 12 wks. For pregnancies less than or equal to <8 wks pre-procedure cervical ripening is not necessary. After this period of gestation misoprostol should be given 2 to 4 hr before procedure. paracervical blockade with or without sedation is used. Complications are lesser than other surgical methods, uterine perforation is very low and if it happens then due to release of pressure injury to bowel and other adjacent organ is very less. Manual vacuum aspirator is portable, do not produce noise and electricity is not required for the functioning.MVA is also recommended as an effective and acceptable surgical method of termination of pregnancy in the Royal college of Obstetrician and Gynecologists(RCOG)[7]Medical methods mainly includes combination of mifepristone and misoprostol. Mifepristone increases uterine contractility by reversing progesterone induced inhibition, where'smisoprostol directly stimulates the myometrium. Medical methods have lower average costs and allow more privacy during the process. However it may extends for days upto few weeks, bleeding is usually heavier and less predictable. Incomplete abortion is more common with this method.

Material and Method

This study was conducted in department of obstetrics and gynaecology, Patna medical college & hospital, Patna, Bihar, from January 2019 to June 2019 for a period of six month. 104 women were selected for first trimester abortion up to 9 weeks of pregnancy from outdoor . In Group-1 (52 women who opted for vaccum aspiration) & Group-2 (52 women who opted for medical abortion).Counselling of the patients were done and all the patients were explained in detail about both the methods. Informed consent was taken from all women.Women with pregnancies upto 9 weeks gestation were given the option of selecting medical abortion with mifepristone and misoprostol or manual vacuum aspiration. Those without a preference were randomly assigned to a method. Outcome were measured just after procedure and 14 days postabortion follow up visit.

Inclusion Criteria

- Women with pregnancies up to 9 weeks.
- Who are willing for termination and given consent.

Exclusion Criteria

- Gestation more than 9 wks,
- Anemia – Haemoglobin < 8 gm.
- Hemodynamically unstable.
- History of clotting disorder / any anticoagulant use
- Known allergy to prostaglandin
- Asthma or cardiac disease

A proper & elaborate history was taken from the women including menstrual and obstetrical history. Informed consent was taken from all women, Every patient was explained about both the options. The women were subjected to clinical examination Bimanual pelvic examination was done to assess uterine size and mobility. Basic investigations including haemoglobin, blood group, urine routine was done. Gestational age was confirmed by ultrasound.

MVA Group

MVA was done using local anesthesia (para cervical block). MVA syringe and cannula was used.Vaccum is created in the syringe. The cannula was insertedtranscervically, cannula was attached to the syringe and valve was opened to Transferthe vaccum through the cannula to the uterine cavity and product of conception were taken out. After the procedure, the tissue removed from the uterus is examined for completeness of product of conception[8].

Medical Method

In Medical Method mifepristone 200mg was given orally on 1st day and patient were asked to come to hospital after 48 hrs. Misoprostol 800µg were put vaginally and patient were kept in observation in emergency unit expulsion of the product of conception. Patients were observed for any symptoms like lower abdominal pain, vomiting, diarrhoea, fever & chill. After misoprostol administration if the pregnancy appears to have been expelled, an examination is done to confirm expulsion. The onset of bleeding, the timing of passes of product of conception, duration of bleeding & side effect were noted. The patient discharged and advise to return in 2 weeks or if required earlier. In follow up visit clinical examination and ultrasonography was done and if it shows incomplete abortion, suction evacuation was done.

Result

Table 1: Distribution of Patient according to Residential background

	GP-I (MVA)		GP-II(Medical Abortion)	
	No.	**%**	**No.**	**%**
Rural	10	19.23%	9	17.30%
Urban	42	80.76%	43	82.69%

Most of the women coming for termination of pregnancybelongs to urban area. In group-I 42 (80.76%) and group-II (82.69%) women are coming for urban area.

Table 2: Distribution of Patient according to age

	GP-I (MVA)		GP-II (Medical abortion)	
	No.	%	No.	%
<20 Yrs	2	3.84	4	7.69
20-25	12	23.07	9	17.30
26-30	30	57.69	28	53.84
31-35	6	11.53	10	19.23
36-40	2	3.84	1	1.92
	52		52	

Méan age of women in group 1 is 26.80 ± 3.63 yrs and in group 227.65 ± 3.50.

Maximum patient Belong to 26-30yrs which is comparable to study by Banarjee*et al*.[9]in which mean age is 27 ± 4.2, Nayak *et al*. with mean age 26 ± 2.42[10].

Table 3: Distribution of Patient according to Parity

	GP-I (MVA)		GP-II (Medical abortion)	
	No.	%	No.	%
Nullipara	2	5.76	8	15.38
Parity -1	7	13.46	5	9.09
Parity – 2	29	53.84	27	51.92
Parity ≥3	14	26.92	12	23.07

10 women were nullipara and majority of them (72.72%) opted for medical abortion. (P. value = <0.05) which is

statistically significant showing more inclination of nulliparous women toward non-invasive procedure.12 women were Para-1, 56 women Para-2 & 26 women were multipara.Chi-Square Value is 0.953,Degree of freedom is 2 & P. Value0.621.Other than nulliparous women there is no significant association between parity and two groups.

Table 4: Distribution of Patient according to gestational age.

	GP-I (MVA)		GP-II (Medical abortion)	
	No.	%	No.	%
<42	7	13.46	17	32.69
43-49	23	44.25	25	48.07
50-56	10	19.23	6	11.53
57-63	12	23.07	4	7.69

Mean gestational age in Group 148.9 ± 6.28 days & Group 2 47.2 ± 6.87 days. Since this is a open class interval. 46.15 patients belongs to this gestational age which was comparable to a study by platais I *et al.*[10] in which mean gestational age was 45 days. A study by Nayak R *et al.*[9] in which patients belongs to 6 to 7 weeks of gestational age which is comparable to this study.Most of thepatient in less than 42 days gestation opted for medical abortion.

Table 5: Distribution of Patient according to duration of bleeding per vaginal

Days	GP-I (MVA)		GP- II (Medical abortion)	
	No.	%	No.	%
1-5	27	51.92	8	15.38
6-10	19	36.53	28	53.84
11-14	4	7.69	12	23.07
>14	2	3.84	4	7.69

Average duration day of bleeding in Group 1 -6.77 ± 2.86 days & Group 2 - 8.57 ± 3.96 days.Amount and duration of bleeding per vaginal is more in Group 2 (medical abortion)

Table 6: Distribution of Pt. According to side effect & complications.

Side effects	Group -I (MVA)		Group – II (Medical abortion)	
	No.	%	No.	%
Nausea	7	13.46	15	28.08
Vomiting	3	5.76	7	13.46
Pain lower abdomen	12	23.06	22	42.30
Diarrhoea	1	1.92	6	11.53
Fever	3	5.76	5	9.61
Incomplete abortion	0	0	2	3.84

Side effects like nausea, vomiting, pain abdomen & Diarrhoea were more in medical abortion. Incomplete abortion noted in 2 cases in medical method group.

Table 7: Success rate of procedure in terms of complete evacuation/expulsion.

Outcome of procedure	Group – I (MVA)	Group – II (Medical Method)
Success	100	96.15%
Failure	0	3.84

Success rate of MVA was 100% with no product of conception found in any patient were as in medical method the success rate was 96.15% in which two patient had incomplete expulsion.They were offered with manual vaccum aspiration, 1 patient refused to go for MVA so misoprostol was given again to this patient. In 1 patients of group 2 manual vaccum aspiration was done.

Discussion

Méan age of women in group 1 is 26.80 ± 3.63 yrs and in group 2 27.65 ± 3.50. Maximum patient Belong to 26-30yrs which is comparable to study by Banarjee*et al.*[9] in which mean age is 27 ± 4.2, Nayak *et al.* with mean age 26 ± 2.42.[10]Mean gestational age in Group 148.9 ± 6.28 days & Group 2 47.2 ± 6.87 days. Since this is a open class interval. 46.15 patients belongs to this gestational age which was comparable to a study by platais I *et al.*[11]inwhichmean gestationalage was45days. A study by Nayak R *et al.* [9] in which patients belongs to 6 to 7 weeks of gestational age which is comparable to this study. Most of the patient in less than 42 days gestation opted for medical abortion.Average duration day of bleeding in Group 1 - 6.77 ± 2.86 days & Group 2 - 8.57 ± 3.96 days.Amount and duration of bleeding per vaginal is more in Group 2 (medical abortion). In this study the success of MVA was 100% with no patients found with retained product of conception were as the success of medical method was 96.15% in which 2 patients had incomplete expulsion. This is comparable to study done by Nayak RG *et al*[10]. In which the success of MVA was 100% and medical method 97.6%,Rorbye C *et al* success rate of medical method and MVA was 94.1% vs 97.7%[12]. In a study of early pregnancy termination by Crenin and Edwards complete uterine evacuation was reported in 99.2% [13].

Conclusion

The Success rate of MVA was almost 100% in this study, where as medical method has 96.15%.MVA is more

effective with minimal side effects for early surgical abortion, as well as a backup method for medical abortion when intervention is required. The duration and amount of bleeding is more in medical method but it provide an alternative choice to the women who want early pregnancy termination. It is noninvasive and provide more privacy to the patient.

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References

1. MedicalTerminationofPregnancyAct,1971 (34 of 1971). Indian J Public Health(Pubmed).1972; 16:37-8.
2. Ministry of Health and Family Welfare, Maternal Health Division, Government of India. Draft Medical Termination of Pregnancy(Amendment) Bill 2014. New Delhi: Gol, 2014. [cited 2014 Dec27]Available from: http:/ mohfw.nic.in/showfile.php?lid =2986
3. World Health Organization, unsafe abortion, global and regional estimates of the incidence of unsafe abortion and associated mortality in 2003. 5th ed. Geneva; WHO; (Google scholar),2007.
4. "IPAS/ Comprehensive abortion care" www.ipas.org. Retrieved, 2018.
5. IPAS development Foundation, ipasdevelopedment foundation. org. Retrieved, 2018.
6. IPAS/Manual vaccummAspiratoin (MVA) www.pas.org. Retrieved, 2018.
7. Royal college of Obstetrician and Gynecologists.The Care of Women Requesting Induced Abortion: Evidence based Green-top Guideline.London:RCOG; Google Scholar), 2011,7.
8. "Manual and vacuum aspiration for abortion". A- Z Health Guide from WebMD. October 2006. Archived from the original on October 28, 2008. Retrieved, 2006.
9. Banerjee A, Abhijit A, Batya E, Kalyanwala S. Mifepristone and misoprostol abortion in free standing. Reproductive health clinic in India. J Obstet Gynecol India. 2009;59(5):432-9.
10. Nayak RG, Patil YS, Patil SK, NK. A Comparison of manualavaccum aspiration with medical method of abortion in termination of pregnancy upto 9 weeks of gestational age. Int J Recent Trends Sci Tech. 2015; 13(3):490-4.
11. Platais I, Tsereteli T, Grebennikova G, Lotarevich T, Winikoff B. Prospective study of home use of mifepristone and misoprostol for medical abortion up to 10 weeks of pregnancy in Kazakhstan. Int JGynaecol Obstet. 2016; 134(3):268-71.
12. Rorbye C, Norgaard M, Nilas L. Medical versus surgical abortion: comparing satisfaction and potential confounders in a partly randomized study. Human Reprod. 2005; 20(3):834-8.
13. Creinin MD,Edwards J. Earlyabortion:Surgical and medical options. Current Problems in Obstetrics Gynecology and Fertility. 1997; 20:6-32 Web of Science [Google Scholar]