J Obstet Gynecol India Vol. 55, No. 5 : September/October 2005 Pg 454-456

ORIGINAL ARTICLE

The Journal of Obstetrics and Gynecology of India

# Evaluation of newer methods of early pregnancy termination

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**OBJECTIVE(S):** To assess the efficacy of medical abortion in the Indian setting and to assess the efficacy of manual vacuum aspiration for early pregnancy termination.

**METHOD(S):** A case control study of 324 pregnant women ≤ 56 days gestation undergoing voluntary elective abortion (MTP) was carried out. They were divided into 3 groups; 30 women for medical abortion (received 200 mg mifeprostone followed 48 hours later by 400 µg misoprostol orally), 194 women for manual vacuum aspiration, and 100 women for electric vacuum aspiration. Clinical data were collected from medical records. We compared electric vacuum aspiration (EVA) to medical abortion and to manual vacuum aspiration (MVA) with regards to certain variables viz., need for pain control medication, time needed for the procedure, patient satisfaction, and complications (incomplete abortion, hemorrhage, perforation, infection).

**RESULTS:** Medical abortion was more commonly opted for by women belonging to urban areas (96.67%) as against either EVA (62%) or MVA (61.34%), ($P < 0.0001$). In early pregnancy of 35-48 days women prefered medical abortion to surgical abortion (86.67% vs 46.6%; $P < 0.0001$). Complication rates were almost similar in the two groups (5.1% in the surgical group vs 6.66% in the medical group). Time taken for surgical procedures was $18.14 \pm 1.72$ minutes for MVA and $27.01 \pm 2.71$ minutes for EVA. Complete abortion rate was highest for EVA (98%) followed by that for MVA (96.91%) and medical abortion (96.67%).

**CONCLUSION(S):** Medical abortion is a relatively new, safe, and non-invasive technic of voluntary abortion which is preferred by urban and educated population in the upper socio-economic strata. The study also establishes an efficacy of MVA similar to that of EVA for early pregnancy termination. MVA is simpler, needs less resources, is equally efficient, and has lower complication rates.

**Key words:** medical abortion, mifeprostone, misoprostol, manual vacuum aspiration.

## Introduction

Unwanted pregnancy has been a problem of mankind from time immemorial. Worldwide, approximately 40 million legal abortions and approximately 10 to 22 million clandestine abortions take place every year [1]. Illegally induced abortion is a major cause of death among women of reproductive age group. Legal abortion is one of the safest operations in contemporary practice and its safety has improved through years. Today, the overall risk of death from legal abortion is less than 1 per 100,000 [2]. But even after 31 years of legalization of voluntary termination of pregnancy (MTP) in India, its availability, particularly in rural areas is very limited. As a result 15,000 to 20,000 abortion related deaths are reported in India every year [3]. There is an unmet need for an easily available method of early pregnancy termination which is both safe and effective. Two methods which fulfill this need are medical abortion using mifeprostone and misoprostol and surgical abortion with manual vacuum aspiration.

The present study was carried out with the aim of assessing the efficiency of medical abortion in the Indian

*Paper received on 15/01/2005 ; accepted on 21/06/2005*

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setting and also the efficacy of manual vacuum aspiration for early pregnancy termination.

**Methods**

This case control study included 324 pregnant women with less than 56 days of gestation by their last menstrual period attending family planning out patient clinic, requesting termination of pregnancy under the MTP Act.

After taking informed consent, women were registered for the study and depending on their desires were allocated to two groups. The first group (n=30) comprised of those undergoing medical abortion by mifeprostone and misoprostol and the second group comprised of those undergoing surgical abortion. The 300 women in the second group were divided into two groups, one (n=200) of those undergoing surgical abortion by manual vacuum aspiration (MVA) and the other (n=100) of those undergoing surgical abortion by electric vacuum aspiration (EVA). This was achieved by allotting every third woman to the EVA group. Subsequently six women in the MVA group decided not to undergo termination of pregnancy and hence only 194 women were left in the MVA group.

All the women had normal findings on general and gynecological examinations, and an intrauterine pregnancy of 56 days or less as established by reliable menstrual history and pelvic examination, and confirmed by ultrasound assessment on day one of the study.

Those undergoing medical abortion received mifeprostone 200 mg orally followed 48 hours later by misoprostol 400 μg orally. Both the drugs were given in the hospital under supervision and the women remained under observation for at least 4 hours after receiving misoprostol. At follow up 2 weeks after initiating treatment, transvaginal ultrasonography was performed, when required, and the abortion was considered complete if no gestational sac was revealed. In case of failure or if ultrasongraphy demonstrated continuing pregnancy, suction evacuation was done.

MVA was done by 60 mL manual vacuum aspiration double valved syringe. The uterine contents aspirated were taken on a gauze piece and examined to identify gestational sac.

EVA and MVA were done under intravenous sedation and their results compared with those of medical abortion. Variables viz., pain control medication needed, time taken for the procedure, and complications viz., incomplete abortion, hemorrhage, perforation and infection were analyzed.

**Results**

59.88% (194/324) women were in the MVA group, 30.86% (100/324) in the EVA group and 9.26% (30/324) in the abortion group.

Majority of the women in the surgical abortion groups (73% in EVA and 67.01% in MVA group) hailed from lower socio-economic class while 43.33% in medical abortion group belonged to the middle class.

Comparison between surgical (n=294) and medical (n=30) methods revealed a statistically significant difference between the two groups on account of parity ($\chi^2 = 22.77$; $P<0.001$) indicating that medical abortion was preferred to surgical abortion by women with low parity. 51.55% of women in MVA group and 86.67% in medical abortion group had 35 to 48 days gestation as compared to only 37% in EVA group.

The various complications encountered are given in Table 1. In the MVA group there were 4.64% complications as compared to 6% in the EVA group and 6.67% in the medical abortion group. Incomplete abortion resulted in 2%, 3.09% and 3.33% in EVA, MVA and medical abortion group respectively. Perforation occurred in 2% in EVA group while in none in the other two groups.

There was only one (0.61%) case of hemorrhage among the 163 women in the gestational age group of 35 to 48 days. Rest of the complications were encountered in the gestational age group of 49-56 days.

In the case of medical abortion, lower abdominal pain was the most common side effect reported in 80% of the cases, followed by nausea (56.67%) and vomiting (16.67%). Diarrhea was the least common complication (10%).

The mean time needed for MVA procedure was $18.14 \pm 1.72$ minutes which was significantly less than $27.01 \pm 2.71$ minutes needed for EVA procedure ('t' 34.172, df=292; $P<0.0001$).

Complete abortion rates were almost comparable in all the groups with EVA having a success rate of 98%, and medical abortion and MVA procedures showing success rates of 96.67% and 96.91% respectively. There were two patients (2%) in EVA group who required uterine re-aspiration while six patients (3.09%) in MVA group and one patient (3.33%) in medical abortion group required re-aspiration with EVA.

**Table 1: Complications**

| Complications | Type of procedure | | | Total (n=324) |
|---|---|---|---|---|
| | EVA (n=100) | MVA (n=194) | Medical abortion n=30) | |
| Incomplete abortion | 2(2%) | 6(3.09%) | 1(3.33%) | 9(2.78%) |
| Hemorrhage | 1(1%) | 2(1.03%) | 0 | 3(0.93%) |
| Perforation | 2(2%) | 0(0.0%) | 0 | 2(0.62%) |
| Infection | 1(1%) | 1(0.52%) | 1(3.33%) | 3(0.93%) |
| Total | 6(6%) | 9(4.64%) | 2(6.67%) | 17(5.25%) |

EVA- Electric vacuum aspiration, MVA - Manual vacuum aspiration.

## Discussion

Multicentric trials conducted under the auspices of WHO have shown that when used in combination with 1 mg gemeprost vaginal pessary, the same effectiveness as seen with 600 mg mifeprostone can be achieved by 200mg mifeprostone in a single dose [4]. Purpose of another WHO trial was to find out the abortifacient efficacy and side-effects of single doses of 200 mg and 600 mg of mifeprostone followed 48 hours later by an oral dose of 400 µg of misoprostol [5]. The complete abortion rate was 89.3% in 200 mg group and 88.1% in 600 mg group. In our study, 96.67% had complete abortion. The incomplete abortion rate was 3.33% in our study as compared to 0.16% to 5% in a larger medical abortion trial at ≤ 49 days gestation [6].

In our study, 2% in EVA and 3.09% in MVA group had incomplete abortion. A study by Balogh [7] and another by Freedman et al [8] compared the use of electric pump with manual vacuum aspiration and found basically equivalent levels of effectiveness.

In a randomized trial conducted by WHO, it was found that the complete abortion rate was 92.2% at a lower gestational age as compared at 80.3% at an advanced gestational age [5]. In our study also, we found that there were 2% incomplete abortions with EVA and 2.06% with MVA at 49-56 days gestational age as compared to none at lower gestational age of 35-48 days.

In the WHO, study [5] lower abdominal pain was reported in 82.8%, nausea in 53.2%, vomiting in 20.5%, and diarrhea in 8.6% of medical abortion cases. Our findings confirm this.

There was no difference in the amounts of intravenous medications needed for pain control and sedation during EVA and MVA which is in conformity with the earlier report by Goldberg et al [9].

We find that medical abortion is a comparatively new, safe, noninvasive technic for abortion which is preferred by urban, educated population in upper socio-economic strata. Our study also establishes the efficacy of manual vacuum aspiration for pregnancy termination with lower complication rates.

### References


1. Padubidri VG, Daftary SN. *Shaw's Textbook of Gynaecology 13th edn*. New Delhi. Elsevier. *2004: 241.*
2. Lawson HW, Frye A, Atrash HK et al. Abortion mortality, United States, 1972 through 1987. *Am J Obstet Gynecol 1994;171: 1365-72.*
3. Khan ME, Barge S, Philip G. Abortion in India - an overview. *Social Change 1996;26:208-25.*
4. Termination of pregnancy with reduced doses of mifeprostone. World Health Organization Task Force on Post-ovulatory Methods of Fertility Regulation. *BMJ 1993;307:532-7.*
5. Comparison of two doses of mifeprostone in combination with misoprostol for early medical abortion: a randomised trial. World Health Organisation Task Face on Post-ovulatory Methods of Fertility Regulation. *BJOG 2000;107:524-30.*
6. Peyron R, Aubeny E, Targosz V et al. Early termination of pregnancy with mifepriston (RU 486) and the orally active prostaglandin misoprostol. *N Engl J Med 1993;328:1509-13.*
7. Balogh SA. Vacuum aspiration with the IPAS modified gynecologic syringe. *Contraception 1983;27:63-8.*
8. Freedman MA, Jillson DA, Coffin RR et al. Comparison of complication rates in first trimester abortions performed by physician assistance and physicians. *Am J Public Health 1986;76:550- 4.*
9. Goldberg AB, Dean G, Kang MS et al. Manual versus electric vacuum aspiration for early first trimester abortion : a controlled study of complication rates. *Obstet Gynecol 2004;103:101-7.*