



Manual vacuum aspiration

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OBJECTIVE(S): To evaluate the safety and effectiveness of manual vacuum aspiration (MVA) as a method of first trimester voluntary termination of pregnancy (MTP).

METHOD(S) : This observational prospective study is going on since February 2003. One hundred patients who underwent MVA using double valve MVA syringe were included in the present report. In 72 cases, MVA was done for pregnancy termination and in 28 for incomplete abortion.

RESULTS : Time taken was three to eight minutes and complications were minimal.

CONCLUSION(S): Manual vacuum aspiration is a safe and effective method for 1st trimester MTP. It is inexpensive and ideal for use in developing countries where there is inadequate infrastructure and electricity is either not available or not reliable.

Key words : manual vacuum aspiration, first trimester MTP

Introduction

The concept of manual vacuum aspiration (MVA) has evolved from that of menstrual regulation (MR) and has recently elicited considerable scientific interest as a safe method of voluntary termination of first trimester pregnancy (MTP). Significant technological upgradation and advances over the last three decades have ultimately resulted in the development of the double valve MVA syringe with a wider applicability throughout the entire first trimester.

Methods

The present study is an ongoing prospective one, started in February 2003. Our hospital is a Government of India recognized training center for MVA. A total of one hundred cases are reported here. Out of these, 72 cases underwent MVA for MTP and 28 for incomplete abortion. Exclusion criteria were – a) previous cesarean delivery b) gestation >12 weeks c) uterine fibroids d) suspected ectopic pregnancy e) pelvic infection, and f) bleeding disorders.

Preliminary investigations were hemoglobin estimation and blood grouping with Rh typing.

Operative steps

1) Injection diazepam 10 mg with injection pentazocine 30 mg was given intramuscularly at the beginning. 2) Vacuum was created in 60 mL double valve MVA syringe or the syringe was charged. 3) The uterus was re-evaluated by bimanual examination. 4) Cervix was cleansed by antiseptic lotion and paracervical block was given. 5) The size of the canula was selected (varying from 4mm – 12mm) to snugly fit in the cervical canal. 6) Using no touch technic, the canula was inserted through the cervix towards the fundus. 7) The charged syringe was attached to the canula and the pinch valves released allowing the vacuum to get transferred to the uterine cavity. 8) Contents of the uterus were evacuated by using rotatory or back and forth movements of the canula. 9) Appearance of red/pink foam or bubbles, absence of more products getting aspirated, a gritty sensation as the canula passes over the uterine walls, and a feel of the uterus contracting around the canula were considered as signs of completeness of the procedure. 10) The evacuated material was inspected for chorionic villi. Five cases of more than 10 weeks of gestation required curetting of the uterus at the end of the procedure since the completion of the

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procedure was in doubt. The average time taken for the procedure in gestations of more than 8 weeks was 8 minutes with a maximum of 10 minutes. Patients were discharged after 4 hours of observation after advising an oral antibiotic and an analgesic. They were asked to come for follow up after 2 weeks and again after the next menstrual period. All of them were given family planning advice.

Results

Table 1 shows the distribution of cases in relation to age and parity. Maximum number of women (57/100) were in the 20-30 years age group and were multiparas (76/100). The period of gestation in 77 cases was < 8 weeks and in 23 it was 8 to 12 weeks.

Table 2 shows that on an average time taken for doing MVA for incomplete abortion was less, viz. 3-4 minutes as compared to 5-8 minutes required for MTP. At less than 8 weeks MTP, the procedure could be completed in just 5 minutes.

Table 1. Age and parity (n=100).

	Number
Age (years)	
< 20	11
20-30	57
> 30	32
Parity	
Nulliparity	24
Multiparity	76

Table 2. Average time needed for completion of the procedure.

Uterine size (weeks)	Time (minutes)
Incomplete abortion cases	
< 8	3
8 – 12	8
Voluntary termination of pregnancy (MTP) cases	
< 8	5
8-12	8

As far as the complications were concerned the procedure was incomplete only in two cases, showing an effectiveness of 98%. Five women came back with fever after 1 week and seven complained of pain in lower abdomen. Uterine perforation occurred in none.

Discussion

According to Shah ¹, the evolution of MVA dates back to 1971 when Karman and Potts reported on uterine aspiration

with hand held syringe as vacuum source and flexible plastic canula. The original single valve MR syringe ² lost its popularity over a period of 5 years because of certain limitations viz., restriction of its use only upto 6 weeks of pregnancy and a high failure rate. It was between 1980 and 1988 that Karman and Wilson revolutionized the structure and function of MR syringe and in a short span of one decade the double valve MVA kit conquered center stage ¹.

A review of recent medical literature shows abundant references testifying increased application of MVA in first trimester MTPs. At the National Abortion Federation Meeting in 1996 Edwards and Carson reported on MVA use for early pregnancy termination with postoperative inspection of the villi and transvaginal ultrasound with a 99% success. Westfall et al ² performed MVA upto 12 weeks in a primary care office setting in 1769 cases. They reported a 99.6% success with only a few complications. FOGSI multicentric study 2001 (unpublished), conducted on 926 cases between 6 and 12 weeks, found a success rate of 98.6%. Our success rate was 98%.

In spite of all the hue and cry raised over reproduction and child health (RCH) program, safe motherhood is still a far fetched goal. Out of the total 15 million induced abortions in 2000, 10 million were done ignoring the MTP act, 60% of them in the rural area. About 15000-20000 maternal deaths are still due to abortion out of which, 15-17% are due to unsafe abortion which is a serious concern. This has led to the realization of the need to have a safe yet inexpensive, easily applicable and widely acceptable method for abortion. In this respect, MVA is a promising method which can be widely practiced even in rural areas where the access to medical facilities are limited, high tech equipments are not available, power supply is erratic, and maintenance of instruments is not upto the mark. Lastly, mention must be made of a statement at the ICPD + 5 meetings by the WHO and FIGO task forces, at Brazil in 1997 - "Properly equipped hospitals should abandon curettage and adopt the aspiration methods, selecting manual evacuation and/or electric aspiration".

MVA is a simple, safe and effective procedure. Its portability and low cost make it a technic best suited for the infrastructure in rural areas. The judicious use of MVA comes with a promise to make early abortions safe and easily accessible to women.

Reference

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