Research Article

Comparative study of Manual Vacuum Aspiration and Suction Evacuation for first trimester abortion- Study of 200 cases

1Rajesh Darade, 2Varsha Darade and 3B.B.Yadav,
1Associate Professor & Head of Unit, Govt. Medical college, Latur, Maharashtra
Gyn. Endoscopic Surgeon- Vaishnavi Hospital & Endoscopy centre
(P.G.Institute), Latur, Maharashtra
2Consultant Gynaecologist- Vaishnavi Hospital & Endoscopy Centre
(P.G.Institute) Latur, Maharashtra
3Associate Professor, Govt. Medical college, Latur, Maharashtra.

[Received-10/07/2016, Accepted-27/07/2016, Published-01/08/2016]

ABSTRACT:-
Aim:- To assess and compare the safety and effectiveness of Manual Vacuum Aspiration (MVA) and Suction Evacuation (SE) for first trimester abortion.
Objective:- For first trimester abortion MVA and SE are used and aim of study was to assess and compare the safety and effectiveness of MVA and suction evacuation for first trimester abortion.
Study Design:- A randomised prospective study was conducted in Obstetrics And Gynaecology Department, Government Medical College, Latur from Feb 2008 to February 2010.
400 patients of first trimester abortion for various indications were randomly allocated to receive MVA (200) or SE (200). Patients were observed post operatively for any complications and statistical analysis was done using Standard Error of Proportion test.
Result:- The group were comparable with maternal age, gestational age, operative time interval and post-operative complication. First group showed significant decrease in post-operative complication like cervical injury, uterine perforation, incomplete evacuation, uterine atony and pv bleeding, infections with the use of MVA. No significant difference in operative time was noted.
Conclusion:- This study shows MVA is much effective and safer method of termination of first trimester abortions with minimal post-operative complications.

Key words- Medical termination of pregnancy (MTP), manual vacuum aspiration (MVA), suction evacuation (SE)

INTRODUCTION:-
First trimester abortion is commonly done procedure in early pregnancy. Though this is a simple procedure if complications occur, it can endanger the life of the patient. Various methods are used for first trimester abortions which are broadly classified in medical methods and surgical methods. In surgical methods, well established Suction Evacuation (SE) is compared with recently introduced Manual Vacuum Aspiration (MVA) and purpose of the study is to assess the safety and effectiveness of MVA with SE.

MATERIALS AND METHODS:-
The study was conducted at Obstetrics and Gynaecology Department Government Medical college, Latur from February 2008 to February 2010 that is 2 year.
The study population was group of patients for first trimester abortion.
Inclusion criteria-
Comparative study Of Manual Vacuum Aspiration and Suction Evacuation for first trimester abortion-Study of 200 cases

Primigravida and multipara
Gestational age less than 12 weeks by last menstrual period and by Ultrasonography.
Singleton pregnancy
Live fetus

Exclusion Criteria
Missed or Incomplete Abortion
H. Mole
Maternal medical disorders like heart disease, renal disorders

Written and informed consent was taken.
Preoperative evaluation for Haemoglobin, Blood Group, Urine Routine and Microscopic examination, HIV test were done. Patients were randomly allocated to either MVA (Group A, n=194) or SE(Group B,n=189). Each patient was questioned in detail and examined thoroughly. Last menstrual period was ascertained by history and ultrasonography and correlated clinically. Post-operative complications were assessed with Haemoglobin, Complete Blood Count, and Ultrasonography pelvis, urine examination for routine and microscopy.

Demographic profile, gestational age, operative interval, post-operative complications were noted.

Demographic profile. (Table 1)

<table>
<thead>
<tr>
<th>Age</th>
<th>MVA Group A</th>
<th>SE Group B</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-25</td>
<td>73(37.62%)</td>
<td>63(33.33%)</td>
</tr>
<tr>
<td>25-30</td>
<td>58(29.89%)</td>
<td>59(31.21%)</td>
</tr>
<tr>
<td>30-35</td>
<td>63(32.47%)</td>
<td>67(35.44%)</td>
</tr>
<tr>
<td>Gestational Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt; or = 6weeks</td>
<td>54(27.83%)</td>
<td>60(31.74%)</td>
</tr>
<tr>
<td>7 - 9 weeks</td>
<td>73(37.62%)</td>
<td>68(35.97%)</td>
</tr>
<tr>
<td>10-12 weeks</td>
<td>67 (43.53%)</td>
<td>61((32.27%)</td>
</tr>
<tr>
<td>Operative interval</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than10 min</td>
<td>82(42.26%)</td>
<td>102(53.96%)</td>
</tr>
<tr>
<td>10-15 min</td>
<td>112(57.73%)</td>
<td>87(46.03%)</td>
</tr>
</tbody>
</table>

Post-operative complications

<table>
<thead>
<tr>
<th></th>
<th>Group A</th>
<th>Group B</th>
<th>Standard Error</th>
<th>Z.Value</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cervical Injury</td>
<td>1(0.5%)</td>
<td>13(6.8%)</td>
<td>1.89</td>
<td>-3.31</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Uterine-perforation</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Incomplete evacuation</td>
<td>2(1.03%)</td>
<td>5(2.64%)</td>
<td>1.23</td>
<td>-1.9</td>
<td>&lt;0.1</td>
</tr>
<tr>
<td>PV bleeding</td>
<td>1(0.5%)</td>
<td>12(6.34%)</td>
<td>1.84</td>
<td>-3.16</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Infection</td>
<td>0(0%)</td>
<td>4(2.11%)</td>
<td>1.04</td>
<td>-2.01</td>
<td>&lt;0.1</td>
</tr>
<tr>
<td>Postoperative Pain</td>
<td>3(1.54%)</td>
<td>17(8.99%)</td>
<td>2.26</td>
<td>-3.29</td>
<td>&lt;0.01</td>
</tr>
</tbody>
</table>

In group A MVA was done with MVA plus Syringe having Bivalve Vacuum aspiration syringe
The syringe can Accumulate 60 cc of products and can create vacuum up to 600 mmHg and can work 80 present is filled up. Various cannulas are provided from 4-12 numbers with various colour codes and are used as 4-7 mm for 4-6 weeks,5-10mm for 7-9 weeks,8-12mm for 9-12 weeks of pregnancy..
In group B metal suction cannula with thumb pressure release valve was used. Suction creation was electrically dependant. Cannula used was from number 4 to12.
In both groups patients were anaesthetised with anaesthesia for short duration. Cervix dilated with serial MVA cannulas and Hegars dilator in suction evacuation. Procedures were undergone and patients were observed for 6 hours postoperatively. Patients were kept NBM for 4 hours, observed for temperature, pulse, BP and PV bleeding. Antibiotics and analgesics were started. After 6 hours patients were discharged and followed for 7 days and after first menses.
RESULT:
Group A had 194 and group B had 189 randomised patients. Both groups were comparable with respect to the maternal age, gestational age and operative time. (Table 1, 2,3) In this present study Table 4 post-operative complications cervical injury in group A is significantly lower than group B (Z=-3.31, p=<0.01). Same result with post-operative PV bleeding which is significantly higher in group B than Group A(Z=3.16,p=<0.01) Uterine perforations were not found in both groups. Incomplete evacuation were statistically similar and not significant (Z=-1.9,p<0.1) . Infection was not found in group A(0) i.e. MVA group Post-operative pain with group A was significantly lower than group B(Z=3.16,p=<0.01).

DISCUSSION:
The result of the study confirms that MVA is much effective than SE for first trimester abortion to decrease cervical injuries and post-operative PV bleeding which is in agreement with Wen J et al group(1).

CONCLUSION:
In conclusion the study has shown that MVA is much effective and safe for first trimester abortions with minimal post-operative complications.

REFERENCES: