Day Case Vaginal Pomeroy Tubectomy; A Simplified Technique

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Abstract
The experience of vaginal tubectomy in 5214 cases over a period of 6 years is presented. Complications and failure rates following vaginal tubectomy were minimal. The main advantages over abdominal tubectomy were a relatively short operation (under local anaesthesia and analgesia) no hospitalization, minimal post operative complications and discomforts with no abdominal scars (JPMA 35 301, 1985).

Introduction
Tubectomy in females can be performed by minilaparotomy, Laparoscopy, Colpotomy, Culdoscopy and Hysteroscopy. Cryocauterisation is being used through Hysteroscope presently and various chemical agents which act as scierosants are at experimental stage.

The vaginal route for tubectomy was first recommended by Babcock and used by a German Obstetrician.

Vaginal sterilization alone or as an interval procedure mostly in association with pelvic floor repair, had a failure rate of 0.59%, showing that interval sterilization by vaginal route is the approach of choice.

Fort and Alexander used vaginal pomeroy sterilization technique in 100 cases with no failure. In 60% of the cases this was the only operative procedure. They used a vertical incision in the vagina. Vaginal Fimbriectomy is although more difficult than vaginal pomeroy but has a low morbidity and rapid convalescence. Posterior Colpotomy and pomeroy procedures were successful in 123 out of 128 cases. The main cause of failure being obesity. Poddar used posterior colpotomy Vaginal sterilization in 200 cases. During follow-up no pregnancy was reported and complications were minimal Akhta compared 85 vaginal with 165 abdominal sterilization. Morbidity rate in the procedures was 8.3% and 3.2% respectively. Culdoscopic tubal ligation when evaluated against vaginal tubal ligations performed through posterior colpotomy showed that both these methods are feasible in developing countries and in those with poor health. For non puerperal patients colpotomy tubal ligation is a good alternative to the laparoscopic approach.

Of 398 colpotomy sterilization potentially serious surgical complications were reported in 2.6% cases. Hartfield did 100 consecutive pomeroy sterilizations via posterior vaginal fornix. Fifty per cent cases were sent home on the day of operation and other fifty per cent remained in the hospital for a minimum of 36 hours. The morbidity in two groups was the same.

Cunanan from an experience of 5018 cases of laparoscopic sterilization reported a complication rate of less than 1% and only fifty per cent of those with complication required laparotomy.

Material and Methods
From December 1978 to December 1982, 5214 vaginal tubectomies were performed at District Health Office Hospital and Sterilization Centre, Faisalabad (Table I).
Abdominal (Puerperal) sterilization and those done in association with abdominal or vaginal operations were excluded from the study.

Major reasons for tubectomy were multi-parity, socioeconomic and medical problems. Cases were brought in by traditional birth attendants and family planning motivators but mainly by clients themselves who had undergone the operation. Dulcolax tablets 2-4 were given at night to evacuate the rectum with instructions to come on an empty stomach the following morning. Women with three or more children who were wffling for pennanent sterilization were examined vaginally to determine the size, position and imbility of the uterus. A imible uterus whetheranteverted or retroverted with no tuboovarian mass or pelvic infection was selected. The best time for operation is the first half of menstrual cycle (Proliferative phase) so as to avoid the chances of conception and menstruation occurring soon after operation. All women were parous and had delivered or aborted at least four weeks prior to tubectomy.

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Tubectomies</th>
<th>Vaginal</th>
<th>Abdominal</th>
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<tbody>
<tr>
<td>1978</td>
<td>665</td>
<td>394</td>
<td>27</td>
</tr>
<tr>
<td>1979</td>
<td>1168</td>
<td>955</td>
<td>213</td>
</tr>
<tr>
<td>1980</td>
<td>1645</td>
<td>1365</td>
<td>280</td>
</tr>
<tr>
<td>1981</td>
<td>1595</td>
<td>1335</td>
<td>260</td>
</tr>
<tr>
<td>1982</td>
<td>1475</td>
<td>1265</td>
<td>210</td>
</tr>
</tbody>
</table>

Table I: Total Tubectomies performed from December 1978 to December 1982.
Table II shows the Distribution of cases according to age and parity. For analgesia and anaesthesia slow intravenous injection of diazepam 10 mg and pethidine 50-100 mg was used. Local infiltration of the vaginal wall was done with 1% Lignocaine.

Patient was put in lithotomy position with buttocks free of the table and 1500 head down tilt.

Posterior lip of cervix was held with vol. sellum and pouch of Douglas was put on stretch by Sim’s speculum which retracts the rectum (Fig. 1.)

<table>
<thead>
<tr>
<th>Age in years</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9 and above</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>10–25</td>
<td>14</td>
<td>26</td>
<td>41</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>81</td>
</tr>
<tr>
<td>26–30</td>
<td>16</td>
<td>142</td>
<td>290</td>
<td>238</td>
<td>128</td>
<td>35</td>
<td>20</td>
<td></td>
<td>869</td>
</tr>
<tr>
<td>31–35</td>
<td>11</td>
<td>83</td>
<td>116</td>
<td>421</td>
<td>451</td>
<td>291</td>
<td>315</td>
<td></td>
<td>1730</td>
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<tr>
<td>36–40</td>
<td>21</td>
<td>215</td>
<td>511</td>
<td>419</td>
<td>401</td>
<td>404</td>
<td>319</td>
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<td>2441</td>
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<td>41 and above</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>8</td>
<td>52</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>11</td>
<td>93</td>
</tr>
</tbody>
</table>
An area 1.5 cm away from the tip of the cervix was infiltrated with 1% Lignocaine. The vaginal wall was held with tissue forceps and a transverse incision was given along the line of junction of vaginal wall and cervix (Fig.2).
The edge of the vaginal wall was held with tissue forceps which put the peritoneum on stretch and was cut with scissors. Opening was enlarged to 2-2.5 cm. Index and middle fingers of the right hand were inserted in the pelvis to reach the right fallopain tube and ovary. A tissue forceps was introduced along with the fingers and opened at the site of the tube or ovary which is held with forceps and brought out (Fig. 3.).
The tube was ligated with modified pomeroy technique (Fig.4).
The procedure was repeated on the other side with left hand. The posterior fornix is closed with continuous catgut sutures including the peritoneum alongwith stitch (Fig. 5).
Antibiotics were given postoperatively for 5 days. Patients were discharged from the hospital as soon as they felt fit to go home (usually after 6-8 hrs) with the advice to resume light household activities the next day. Coitus was forbidden for four weeks. Routine follow-up at the clinic was advised after one week and then after four weeks. Defaulters were visited at home by family planning visitors. They were
instructed to return to the hospital in case of any problem.

**Results**

The criteria of selection for vaginal tubectomy was by the clinical assessment that the uterus was of normal size, mobile and there was no adnexal pathology and infection. The operation could not be performed in six cases, two due to failure to open peritoneum and four due to failure to perform tubectomy due to adhesions 0 5 and so abdominal tubectomy was done under general anaesthesia. Previous abdominal surgery was not a contraindication provided that there were no pelvic adhesions. Obesity was not a problem and we found vaginal tubectomy suitable for obese women. There were three cases of vaginal bleeding, of these one required stitching of vaginal vault and two had to be packed. There was no case of abdominal bleeding. Two cases of small bowel injury were repaired vaginally and four cases of rectal injury were repaired in two layers with uneventful recovery. Six cases of infection resulting in pyrexia, pelvic peritonitis, salpingitis, and vaginitis were treated after hospitalization with antibiotics. Three cases had pelvic abscess, one required laparotomy and two were drained vaginally. Although the complication rate was 3.64/1000, serious complication, requiring laparotomy was only one.

Out of 5214 vaginal tubectomies performed, four pregnancies occurred during follow-up, giving a failure rate of 0.76/1000.

Recent increased demand for voluntary female sterilization has created an urgent need for a simple, safe, sure and superior procedure that can be performed using local anaesthesia, a short hospital stay, low morbidity and rapid recovery time.

The advantages of vaginal tubectomy are manifold. The procedure is relatively simple and is performed under local anaesthesia involving only a short hospital stay and is therefore economical. Psychologically it is highly acceptable to women as there is no abdominal operation or scar. Surgical trauma is minimal, there is minimum post-operative pain and abdominal distension, with rapid convalescence and low morbidity and mortality. Early ambulation and a quick return to normal household duties within a week with minimal disturbances to the rest of the family make the procedure highly acceptable. Furthermore, the equipment required for the operation is easily available in most Gynaecology theatres.

The disadvantages of the operation are that it is technically more difficult, considerable skill and experience is required to perform it. Intraperitoneal contamination and infection are more frequent due to extensive manipulation of the uterine tubes prior to ligation. However we do not permit manipulation of the tube more than once or twice. If infection is already present it should be treated before hand. Prophylactic antibiotics are given to all patients.

Vaginal tubectomy has scored over all other methods in fulfilling these requirements specially in developing countries which have an unlimited population and restricted resources.

Table I shows gradual increase in vaginal tubectomy every year and a fall in puerperal sterilization. We do not discourage puerperal tubectomy but most women insist on coming back after one month of delivery for vaginal tubectomy as they do not feel fit immediately after the ordeal of labour and delivery. Interval tubectomy has the advantage of allowing the women to recover from the last pregnancy and delivery and time to review her decision for tubectomy. It also allows the status of new born to be determined. This is specially important in a country like ours where infant mortality is very high. This procedure is more feasible in poor nations where masses of women are waiting for tubectomy and where birth rate is very high.

Day case laparoscopic sterilization was when compared with day case vaginal tubectomy, the latter was found to be better. Of the four cases of failure in this study, all had intrauterine pregnancy and no ectopic pregnancy resulted. In cases of laparoscopic sterilization depending upon the method used the
rate of ectopic pregnancy is high in patients who had coagulation and division than in patients who had coagulation alone. Retroversion of uterus was not required in those with anteverted uterus, as was advocated in other, the need to retrovert the uterus in order to ease the procedure study. Vaginal tubectomy has been found superior to abdominal when performed in judicially selected cases. Obesity causes technical difficulty in all other methods except vaginal tubectomy. In the present series, the operation time, duration of hospitalization and convalescent period was short. There was minimal post operative discomfort and incidence of minor morbidity and major complications were significantly lower. The main advantage is the women’s acceptance of the procedure which makes it a superior method to other types of interval sterilization. It must be noted that the result in the present series are limited to a single report with each case being performed or monitored by an experienced Gynaecologist.

It is difficult to compare different methods because no gynaecologist is using all methods at a time. A gynaecologist usually attains skill in one method and continues to use the same technique. As the number of women undergoing tubectomy continues to increase so does the potential demand for reversing the procedure. Only a very small number of women may ever want reversal, but for those few, the technique of microsurgery and new, more reversible methods of tubectomy offer hope.

References
at the 2nd International Conference on Voluntary Sterilization, Geneva.