International Journal of Medical Science and Clinical Research Studies

ISSN(print): 2767-8326, ISSN(online): 2767-8342

Volume 02 Issue 12 December 2022

Page No: 1504-1507

DOI: https://doi.org/10.47191/ijmscrs/v2-i12-26, Impact Factor: 5.365

Post Tubectomy, Fallopian Tube Recanalization

Joshi K N[1], Joshi Anshumala[2]

[1] Chief Consultant Surgeon (Retired) Bheri Zonal Hospital, Nepalgunj, Nepal

[2] MMBS, MD (Gynecology) is gynecologist and assistant professor of gynecology in Nepal Medical College Jorpati, Kathmandu

ABSTRACT

Bilateral tubectomy is one of commonly used method of contraception worldwide as a permanent method of family planning procedure for women, which can be done laparoscopically or by open method of surgery. Many women regret for their decision of permanent sterilization and some of them come to restore their fertility, because they have lost their press child which is usually male and some come because they have remarried. To restore fertility in post tubectomy women, fallopian tube re-canalization or in vitro fertilization (IVF) is the answer. For post-tubectomy cases, fallopian tube recanalization can be done manually by open surgery or with laparoscope.

Since 2014 till date, 18 cases of post-tubectomy fallopian tube recanalization, manually by open method of surgery is done. This method was found to be most feasible, simple and no special instrument or equipment was needed. As such general surgical instruments were used in bilateral fallopian tube anastomosis with too satisfying results.

KEYWORDS: post tubectomy, fallopian tube recanalization

ARTICLE DETAILS

Published On:
14 December 2022

Available on:
https://ijmscr.org/

INTRODUCTION

This paper is being brought to make familiar the simple procedure of fallopian tube recanalization with very simple instrumentation, so that this service could be possible by all at most of hospitals of country. Bilateral fallopian tube block by open surgical tube division and ligation or laparoscopic clip application is most common method of contraception worldwide, but about 10% of them regret for their decision and 1% of them want to restore their fertility[1]. Small button hole opening under local infiltration anesthesia, about 3-4 centimeter above pubic symphysis, to catch hold the tubes of both sides, one by one to divide and ligate the both ends, is the popular method of permanent sterilization for women, which we have been doing since years till date.

As mentioned above, about 1% out of all, come for restoring their fertility by fallopian tube recanalization, for either child death or changed marital status as change of husband. Demand of restoring fertility will go on increase in proportion to social development. In anticipation to increasing demand of restoring fertility, this paper, post tubectomy fallopian tube recanalization is being brought in simplified way with diagrammatic presentation of methodology, so that this service could be given at every place worldwide. We have not used any specific instrument or any specific machine as magnifying glass or magnifying microscope in our working. Simple general surgical instruments and simple suture materials have been used, so that operator will have no problems to find the materials and instruments needed.

MATERIAL AND METHODS

This is a prospective, observational and clinical study done in Western Hospital Nepalgunj, since 2014. During 8year time, 18 cases of bilateral fallopian tube recanalization have been done. Patients personal and family history was taken in details, with clinical examination, then followed to routine investigations before the surgery is done. Person first come first were subjected to procedure. All 18 cases were found healthy on surgical ground and all were subjected to open method of fallopian tube recanalization under spinal anesthesia. They all were subjected to permanent sterilization for the purpose of controlling family size before. Division and ligation of fallopian tubes was done at different clinics, different family planning camps and district hospitals of Nepal. They all had about 3 Centimeters (Cms) long horizontal scar of previous surgery, about 3 Cms above pubic symphysis which was excised and the same was extended onto both sides to about 8-9 Cms as with smaller incision, surgical manipulations were difficult. Uterus was held lifted

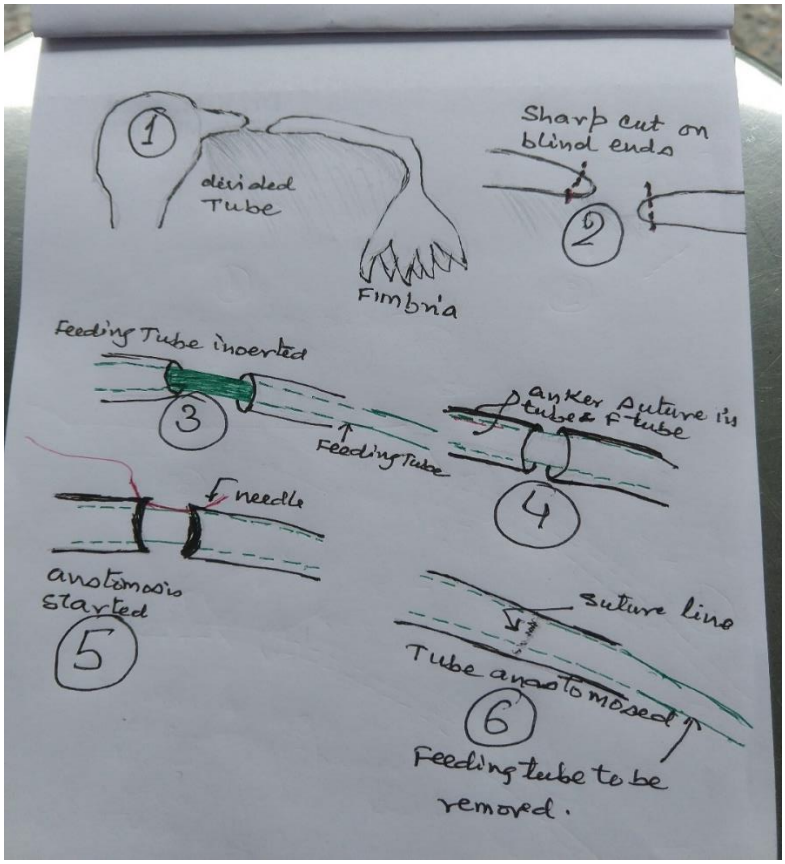
up and first left side both tube ends were traced and their blind ends were divided with sharp blade not with paired scissor. Scissor cuts with crushing phenomenon, devitalizing the cut ends of tube, thus bring the relatively poor vascular tissue at anastomotic site with chances of delayed or poor tissue healing and more microscopic scaring at healing site, which can be the site for ectopic pregnancy later. After clearing the blind ends of tube, an infant feeding tube No. 6 was inserted into fallopian tube passing through the fimbrial end and advanced further to reach proximally through the cut end and further advanced into the cornual end and transfixed with a stay suture, to be removed at end of tubal anastomosis is completed, with removal of feeding tube. Vicryl 3/0 suture was used and four stitches at 3, 9,6,12 O clock position were applied. Needle was passed just through the side of feeding tube. During suture application first bite started from the serosal layer to mucosa and to other end of tube from mucosa to serosa, so the knot is tied on the serosal surface of fallopian tube, not on to mucosal surface. The same procedure is repeated for the other side tube. Save the maximum length of fallopian tube. Average age of women coming for recanalization was 32.8 years, average time interval of bilateral tube division and ligation to recanalization was 8.7 years, average age at which bilateral tubectomy was done was 24. 11 women came for recanalization due to death of child and 7 came after remarriage. Women of child death were older and remarriage women were of younger in age. Average time taken skin to skin at operation was about 45 minutes.

S.No	Age at recanalization	Age at tubectomy	Interval at recanalization	S.No	Age at recanalization	Age at tubectomy	Interval at recanalization
1	27 years	22 years	3 years	10	27 years	22 years	5 years
2	30 years	23 years	7 years	11	34 years	25 years	9 years
3	35 years	24 years	11 years	12	37 years	25 years	12 years
4	28 years	22 years	6 years	13	33 years	23 years	10 years
5	32 years	24 years	8 years	14	37 years	26 years	11years
6	34 years	25 years	9 years	15	35 years	27years	8 years
7	38 years	25 years	13 years	16	36 years	28years	8 years
8	33 years	24 years	9 years	17	26 years	22 years	4 years
9	30 years	22	8 years	18	39 years	23 years	16 years

Average age at recanalization 32.8 years, Average age at bilateral tubectomy 24 years

Average time interval between tubectomy and recanalization of fallopian tube 8.7 years

Different steps of tube recanalization is shown from step 1to step 6



RESULT

18 total cases were operated during mentioned period of 8 years. 11 cases came after death of child and 7 for remarriage. All had uneventful post operative recovery and were discharged home after second post operative day to report as per need. 10 cases had normal child birth one case came for ruptured ectopic pregnancy and 7 cases could not be traced. Case of ruptured ectopic pregnancy had very bad tear in the tube, which could not be repaired at that time and later she did not desire to get recanalized to that particular tube.

Overall results were very satisfactory with a message to general population that fertility can be restored with great ease if so desired, after bilateral tubectomy is done.

DISCUSSION

There are two options left for women desirous to restore their fertility after bilateral tubectomy is done. One is In Vitro Fertilization (IVF) or go for fallopian tube recanalization. Fallopian tube recanalization can be done either by laparoscope through a small key hole opening or by open surgery. IVF is time consuming, needing long time for result to come. If pregnancy report comes positive then happiness in the family, otherwise go for again and again to same course of painful treatment. Gradually couple gets tired up with repeated procedures. Pain of repeated procedures with continuous monitory loss, decrease the confidence of partners and destroys the relationship of the couple. **Liying Ying et al have reported that** infertility affects both women and men in the physical, emotional, existential, and interpersonal relation. When couples seek in vitro fertilization (IVF) treatment, they further suffer from the difficulties of the treatment and the uncertainty of its outcome[2]

Rana Karayalcin et al have stated that " Tubal sterilization is a widespread method of contraception. Post-sterilization regret is encountered, despite careful consideration prior to the procedure. Two treatment options are available for women after having had tubal sterilization: microsurgical reversal and IVF treatment"[3].

P J Paterson have analyzed factors influencing the success of microsurgical tuboplasty for sterilization reversal in 147 cases and claimed that best pregnancy rates seen in cases who had been subjected to mechanical sterilization[4], meaning by either open key hole tubectomy or laparoscopic clipping with minimal tubal damage. In his series, he has found tubes less than 4 Centimeters were seen with poor pregnancy rate. In our series all cases were subjected to button hole simple instrumental tubectomy and found the remaining tube length moreover 7 centimeter or so.

Howard W. Jones, JR, MD et all recommend introduction of a nylon of 00 size through the fimbrial end of fallopian tube up to uterine cavity as a splint needed during anastomosis and leave about 50 Centimeter in the uterine cavity to be removed after 4 week through vagina. They advise anastomosing intwo layers, first mucosal layer and then the serosal layer, but in our series, we have repaired serosa and mucosa in single layer with vicryl 3/0 with knotting on to serosal surface. Repair of mucosa to serosa in single layer is seen equally satisfying in our series. We have recommended an infant feeding tube of size No.6 in place of nylon as above, to be removed soon after anastomosis is completed. This procedure was found to be more feasible and comfortable during anastomosis, avoiding repeated trauma after 4 weeks or so in removal of 00 sized nylon as mentioned by Howard et al [5]. Our finding and working as such co-relates with Howard et al, though method partly differs.

Yun Fing et al studied 156 cases of oviduct anastomosis and found pregnancy rate decreases with age advancement, pregnancy rate (PR) decreases if post-operative oviduct length is less than 7 Centimeters. PR was more with laparoscopic tubal ligation and laparoscopic tubal anastomosis than open tubal ligation and laparoscopic tubal anastomosis. PR is good if anastomosis is done before 35 years and interval of tubal ligation to recanalization to be less than 6 years.[6]

S.H. Kim et al analyzed the results Of 1,118 patients, 633 (56.6%) had been sterilized by laparoscopic cautery. Loss of children was a leading reason for requesting tubal reversal. The mean interval between tubal sterilization and reversal was 51.9 months. Nine hundred twenty-two (82.5%) patients were followed up for more than 5 years. The overall pregnancy rate (PR) after microsurgical tubal anastomosis was 54.8% (505 of 922) with a delivery rate of 72.5% (366 of 505), and the estimated anatomical success rate was 88.2% (814 of 922). There was no statistically significant difference in the PR or in the interval from tubal reversal to conception among the different operative procedure groups. In addition, no statistically significant difference in the PR was observed regardless of the postoperative tubal length. However, the interval from operation to pregnancy decreased significantly as the postoperative tubal length increased. The pregnant patients (n = 505) were younger and had a longer postoperative tube than the nonpregnant patients (n = 417); these differences were statistically significant[7]. Our series was not big but whatever we had, average age at recanalization was 32.8 years, average age at bilateral tubectomy was 24 years and average time interval between tubectomy and recanalization of fallopian tube was 8.7 years, which is more over consistent with Yun Fing et al. and Yun Fing et al.

Gupta et al from Chandigarh, India reported 57 cases of tubal reversal out of them 13 cases lost follow up and 35 of them reported pregnancy in 3 moths after the tube reversal. They claimed best site of anastomosis in tuboplasty for better pregnancy rate to be isthemo-Isthmic and worst pregnancy rate with ampulo-ampulary anastomosis.[8] In their series, the majority (90%) of the reason for request for reversal of procedure was loss of male child or more than one child. We also lost follow up of 7 cases out of 18 and main reason of request for reversal of fertility was no male child in the family

due to child death.[8] In developing countries like Nepal, if surgery fails or some problems they notice after some surgery, they will come in mass to ask for some sort of compensation and if everything goes well, may not contact at all to concerned, so it is estimated that person who lost contact must have obtained their desired goal after reversal of their fertility.

CONCLUSION

Tube division and ligation of both ends is the procedure of permanent sterilization for women. With ongoing social development, demands for tubal recanalization will be on increase. This simpler method of tube recanalization is being produced in this paper so that this kind of service could be made available at all corners of country and world. We have used very common general instrument; no special instrument or equipment were used.

ACKNOWLEDGEMENT

I greatly appreciate the needed help retendered to me including giving spinal anesthesia to Dr N K Gywali, Professor, Anesthesiology and Dr Binod Thapa, orthopedic surgeon, for giving me his operation theatre for doing surgery.

REFERENCES

I. Jian Fung Niu, Xianomin Cui Department of obstetrics and gynecology; Hospital of Yantai PR China Pubmed NIH).

II. Liying Ying, Lai Har Wu, Xiangli Wu, Jing Shu, Alice yuen Lok. Endurance with partnership : a preliminary conceptual framework for couple undergoing in vitro fertilization treatment. 144-157. Doi: 10.1080/02646838. 2017.1416335.

III. Rana Karayalcin, Saro Ozcan, Aytekin Tokmak, Beril Gurlek, Okan Yenicesu,Hakan Timur. Pregnancy outcome of laparoscopic tubal reanatsomosis : retrospective results from a single clinical centre. J Int Med Res 2017 Jun; 45(3):1245-1252
doi; 10.1177/0300060517709815.Etub2017

IV. P J Paterson. Factors influencing the success of microsurgical tuboplasty for sterilization reversal.Clin Reprod Fertil1995 Mar;3(1):57-64

V. Howard W. Jones JR MD, John A. Rock. MD. On the reanastomosis of fallopian tube after surgical sterilization. Fertility and sterility 1978;29(6):702-704

VI. Yun Feng, Han Zhao, Hongxia xu, Ying Ai, Lingyun Su, Li zou, Linna yang, Dehong Yang, Xuelan Yan, Na Ma, Wei Dong. Analysis of pregnancy outcome after anastomosis of oviduct and its influencing factors. BMC Pregnancy Childbirth2019;19:393

VII. PMC 6820913 Doi: Published online 2019 Oct 30. doi: 10.1186/s12884-019-2469-2

VIII. S H Kim, C J Shin, J G Kim, S Y Moon, J Y Lee, Y S Chang, microsurgical reversal of tubal ligation: a report on 1,118 cases. Fertil Steril. 1997 Nov; 68(5): 865-70. Doi: 10.1016/s 0015-0282((97) 00361-0

IX. Gupta, H Sawhney, U Mahajan. Macroscopic tuboplasty: reversal of female sterilization . Asia Oceania J Obstet Gynaecol. 1990 Dec; 16(4): 307-14