

Single Puncture Laparoscopic Tubal Ligation in Tertiary Health Centre: Aretrospective Study

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Abstract

Context: From 1960-1970's Indian populations became more aware of laparoscopic tubal ligation, It is female sterilization permanent surgical method of contraception. *Aims:* To evaluate the cases registered for tubal ligation by single puncture method with respect to their age, parity, intraoperative and postoperative complication of the single puncture laparoscopic tubal ligation in tertiary health care centre. *Method:* A retrospective study of the laparoscopic tubal ligation done at rural medical college during January 2013-december 2017 interval. Total number of cases- were 4294. Laproscopic tubal ligation done under IV sedation and local anesthesia. Procedure carried out in interval laparoscopic tubal ligation, puerperal laparoscopic tubal ligation and after 1st trimester MTP. *Results:* Most of the patient were in age group of 21-30 yrs (73.3%). Most of the patient were having two children, previous 2 LSCS were 1045 (55.3%), previous 3 LSCS were 356 (39.6%). 752 (17.51%) patients had tubal avulsions, 20 (0.46%) patients had uterine perforation, only 2 patients required laparotomy and one patient had superficial inferior vena cava puncture. *Conclusions:* Single puncture laparoscopic tubal ligation was found to be easy to perform with no or minimal complication rate.

Keywords: Single Puncture - Laparoscopic Tubal Ligation;

Previous Caesarean Section; Retrospective Study.

Introduction

National family programme started in India since 1956 when sterilization is performed by open tubectomy method. From 1960-1970's Indian populations became more aware of laparoscopic tubal ligation, It is female sterilization permanent surgical method of contraception. Single puncture laparoscopic tubal ligation most widely accepted by society, females, couples and surgeons because it is safe sterilization method with less complication.

Material and Methods

Retrospective study in a woman having a laparoscopic tubal ligation. All pre-operative procedure investigation and pre-anesthetic check-up done. Written informed consent taken.

Premedication: Intravenous sedation and local anesthesia (10 ml of 1% lignocaine) given.

The patient is placed in the lithotomy position. The operating table is tilted to approximately <15% of Trendelenburg position. Usual aseptic precaution is taken as in abdominal and vaginal operations. Pelvic examination is done methodically. A uterine manipulator is introduced through the cervical canal for manipulation for visualization of tubes and a small skin incision (1.25cm) is made just below the umbilicus. The Veress needle is introduced

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Received on 01.02.2018,
Accepted on 26.02.2018

through the incision with 45 degree angulation into the peritoneal cavity the abdomen is inflated with about 2 litres of gas room air. Introduction of the trocar cannula and laparoscope with ring loaded applicator-two sialistic rings are loaded one after the other on the applicator with the help of loader and pusher. The trocar with cannula is introduced through the incision. Fallopian tube identify and confirm and ring applied over isthamic ampullary junction region in avascular area. Same procedure applied on the other side [2,5]. The abdomen wound is sutured by a single 1-0 non absorbable suture. All patients observed for post operative 4-6 hours closely then given oral antibiotics and analgesia, discharged next day. They were advised routine follow-up after 7 days for suture removal. All patients were informed regarding visit doctor if there is missed period.

Results

The present study was conducted on hospital data of total 4294 cases managed with Single puncture laparoscopic tubal ligation during the period of 2013-2017 under department of obstetrics and gynecology,

Shri Bhausaheb Hire Government medical college, Dhule. Majority of cases (50%) belonged to 26-30 years of age group, followed by 21-26 years of age group (23.2%) (Figure 1). When we compared the cases according to their parity and presence of previous scar, we observed that majority of cases belonged to parity two (55%), followed by parity three (40%) (Table 1). Most of the cases operated for laparoscopic TL after their 1st trimester MTP 2196 (51.1%), followed by interval laparoscopic TL in 1197 (27.8%) and pueperal laparoscopic TL among 901 (20.9%) cases (Table 2).

When we assessed the reported intra-operative complications occurred during the TL procedures, we observed that tubal avulsion was the most common complication in 752 (17.51%) cases, followed by perforation of uterus among 20 (0.46%) cases, cornual injury in 04 (0.09%) cases and 02 (0.04%) cases needed laparotomy (Table 3). We also observed that postoperative pain was the most common post-operative complication among 56 (1.30%) cases, followed by serous/oozing discharge from the wound in 35 (0.8%) cases, wound gaping in 03 (0.06%) cases (Figure 2). None of the cases reported peritonitis, bowel injury in later stage.

Table 1: Paritywise and previous scarwise distribution of the patient

Parity	No of patient (n=4294)%	Previous scar patient(n=4294)%	Total previous scar patient according to parity
P1	15	2	13.3%
P2	1887	1045	55.3%
P3	897	356	39.6%
P4	1093	157	14.3%
G5 or more	402	34	8.4%

Table 2: Comparison of various cases of based on time of the procedure (last five years data)

Years	Interval lap-TL	Puerperal lap-TL	After 1 st trimester MTP
2013	280	220	440
2014	290	100	486
2015	180	170	450
2016	220	188	400
2017	227	223	420
Total number of cases (%)	1197(27.8%)	901(20.9%)	2196(51.1%)

Table 3: Distribution of cases showing intraoperative complications

Complications	Patients (%) (n=4294)
Perforation of uterus	20(0.46%)
Tubal avulsions	752(17.51%)
Laparotomy	02(0.04%)
Extraperitoneal air sufflation	183(4.26%)
Inferior vena ceva superficial puncture	01(0.02%)
Cornual injury	04(0.09%)
Mesosalphinx hematoma	03(0.06%)

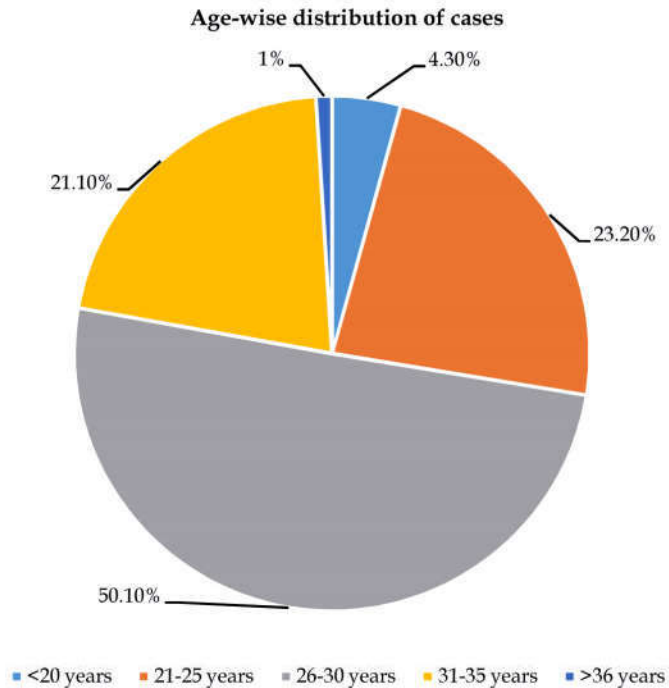


Fig. 1: Age wise distribution of the Patient

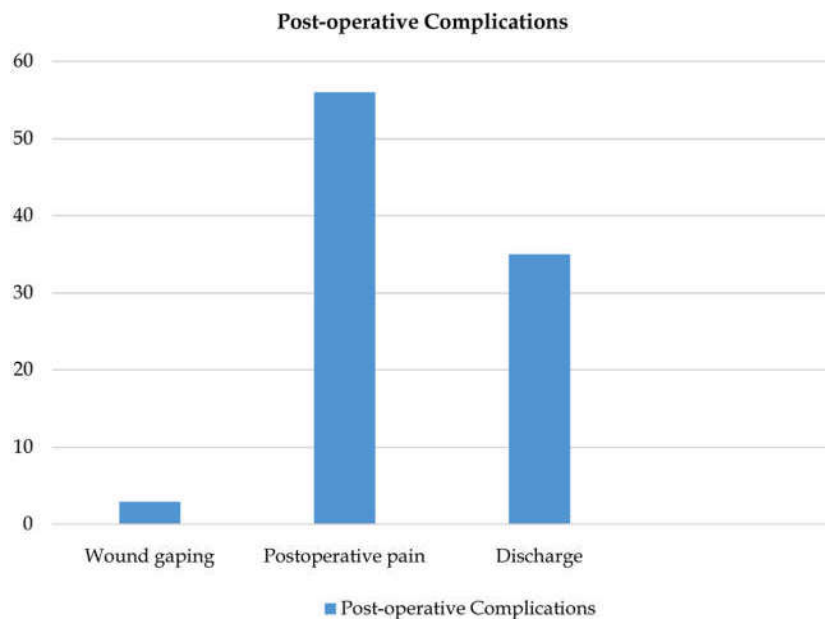


Fig. 2: Distribution of cases showing postoperative complications:

Discussion

The present study was conducted to study demographic characteristics, indications, complications of procedures. In our study 73.3% of patients were of 21-30 yrs of age with average age 26-30yrs (50.1%) as compared to Vaishnav et al [1], where average age was 25-29yrs (44.3%) and 79.57% age

group was 21-30yrs. Whereas in Rajendrasingh et al [4] average age group was 26-30 yrs (85%). In Nagapurkar SN et al [11] average age group was 25-30 yrs (50.27%). Age 25-30yrs (58.9%) in Prayag et al [10]. In our study 55.3% were second para with previous two LSCS, 39.6% were third para with previous three LSCS whereas in Kanupriya et al [2] study 20% patient had previous one LSCS 77% had two LSCS and 3% had previous three LSCS.

So, maximum patients were of previous two LSCS. In Nagapurkar et al [11]. 50.27% were having two children and in Rajendrasingh et al [4] showing 85% having three children. Only 14.3% had more than 4 children comparable to Nagapurkar SN et al [11] 2.7%, 4.14% in Vaishnav et al [1], 3.5% in Prayag et al [10]. In our study time of the operation maximum after 1st trimester MTP 51.1% which correspond to vaishnav et al [1] study in which 51.38% had tubal ligation after 1st trimester MTP. In Date et al [12] 31.43% had tubal ligation after 1st trimester MTP. In our study 27.8% had interval laparoscopic tubal ligation and 20.9% had puerperal laparoscopic tubal ligation compare to vaishnav et al [1] 44.48% had interval tubal ligation and only 4.14% had puerperal tubal ligation specifically after 5 wks. In asalkar et al [3] study 76% had puerperal open tubal ligation out of 68 cases. In our study intraoperative complication of tubal avulsions were 17.51% compare to vaishnav et al [1] 0.004% had tubal transections and in a salkar et al [3] only three patient had tubal transections and required further hemostasis with catgut sutures. 4.26% patient had extraperitoneal air sufflation and 0.46% had complication of perforation of uterus compare to vaishnav et al [1] 1.81% had extraperitoneal air sufflation and 0.69% had perforation of uterus. No life threatening event and death occur, in our study only one patient required laparotomy due to superficial inferior vena cava puncture compare to vaishnav et al [1] whereas 2 (0.0008%) required laparotomy.

In study conducted by Gupta et al [7] 28% had previous surgery out of 23% had significant adhesions but in our study no significant adhesion found. In our study 0.8% patient had serous discharge from the wound, 0.06% had wound gap which is managed by dressing compare to Huber et al [9] and vaishnav et al [1] where 0.0095% had serous discharge from the wound 1.30% patient had postoperative pain which is cured by analgesic. No specific serious postoperative complication found in our study. Further studies are required to comment on failure rate because no long term follow up was done.

Conclusions

Single puncture laparoscopic tubal ligation in all patients, interval TL, puerperal TL and even after 1st trimester MTP was found to be easy to perform with no or minimal complication rate it can be easily performed even after several cesarean sections with

low morbidity. It should not be contraindicated if extra care is taken [8]. Here we can easily measure the quantity and quality of the procedure by percentage of previous scarred and complication occurred in the patient.

Conflict of Interest: None

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