



INCIDENTAL FINDINGS DURING LAPAROSCOPIC TUBAL STERILIZATION IN CAMPS-OUR EXPERIENCE OVER THE PAST 30 YEARS.

KEYWORDS

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ABSTRACT

INTRODUCTION: Laparoscopic tubal sterilization is one of the leading methods of contraception used all around the world.

More than 190 million couples worldwide use surgical sterilization as a safe and reliable method of permanent birth control. Over the past 30 years we have operated on more than 1 lac women across the states of Karnataka, Kerala, Maharashtra and Tamil Nadu. Apart from carrying out tubal sterilization we have come across several incidental findings such as collection in the pouch of Douglas (POD) suggestive of pelvic inflammatory disease (PID), missed copper T's and unruptured cornual and tubal pregnancies.

MATERIALS AND METHODS: A retrospective trial was carried out over a span of 30 years between 1985 to 2015 when tubal sterilization was carried out by the Ron-Manvi method in the South Indian states of Karnataka, Kerala, Maharashtra and Tamil Nadu in camps. During this procedure several incidental missed copper T's and unruptured cornual and tubal pregnancies were documented. The missing copper T's were retrieved either by laparoscopy or laparotomy in the same setting or in a second setting. Those patients with an unruptured cornual or tubal pregnancy underwent a laparotomy for the termination of pregnancy either in the same setting if facilities were available or immediately after shifting the patient to the nearest possible tertiary care centre. If a collection was noted in the pouch of Douglas, it was suctioned off and post operatively the patient was started off on medical management of pelvic inflammatory disease.

RESULTS: Over the past 30 years more than 1 lac women have undergone tubal sterilization by Ron-Manvi technique across various states of South India. During our study period it was noticed that on laparoscopy collection was found in the POD suggestive of a PID in about 584 women. Copper T's which the patient had failed to get it removed after the stipulated time period were found in about 4 cases. Unruptured cornual pregnancy was found in about 6 cases and unruptured tubal pregnancy was found in about 12 cases.

CONCLUSION: Incidental findings during any laparoscopic surgery are to be expected and the surgeon should be well equipped with a sound knowledge of anatomy and also possess the skills required to deal with any such findings during surgery. Thus laparoscopic method of tubal sterilization is not only serving the primary motive of birth control but also behaving as a diagnostic and therapeutic tool for the management of conditions which would have otherwise gone unnoticed until the patient developed complication secondary to those conditions.

INTRODUCTION:

Tubal sterilization forms an important constituent of the national Family Planning Programme in India. It is one of the most popular form of birth control. It carried out anywhere in camps in rural settings to a tertiary health care centre or even in private nursing homes. According to the reports of NFHS-3 female sterilization accounted for about 37.3% of all methods of family planning used in our country. This might be largely influenced due to the economic compensation being given for undergoing the procedure. A survey conducted showed that about 64% of women were contemplating on undergoing the procedure in the near future. During our 30 years of experience of conducting laparoscopic tubal ligation across various states of South India we incidentally found several other conditions that co-existed in the same patient about which the patient was totally unaware of. We hereby have tried to compile such cases which we came across during our work period so that we were able to administer further treatment to such cases which would have otherwise gone undiagnosed until the patient landed up in some complication secondary to these conditions which might have increased the mortality and morbidity associated with such cases.

MATERIALS AND METHODS:

This was a retrospective study carried out over a span of 30 years between 1985 and 2015. All patients were undergoing laparoscopic tubal sterilization in camps that were conducted across the various states of South India. The sterilization was carried out by the Ron-Manvi technique.

Depending on the incidental finding the further management of the patients were planned. Those patients with evidence of PID in the form of collection in the POD were offered medical line of

management after suctioning off the collection via laparoscopy. Those women with ectopic pregnancies were managed with emergency laparotomy and further course of action was dependent on the location of the ectopic. Patients with displaced IUD in the peritoneal cavity either underwent retrieval of the IUD by laparoscopy or laparotomy in the same technique.

RESULTS:

Over 1 lac women underwent laparoscopic tubal sterilization in camps during a time span of 30 years from 1985 to 2015. Pelvic inflammatory disease suggested by the presence of collection of fluid in the POD was observed in over 584 women. In all these cases after evacuating the fluid using a suction cannula these women were prescribed appropriate medical line of management post operatively. Ectopic pregnancy was noted in a total of 18 patients. 12 (66.67%) were tubal ectopics and 6 (33.33%) were noted to be cornual gestations. Out of the 12 tubal pregnancies 9 (75%) were found in the ampullary region, 2 (16.67%) were found in the isthmus and 1 (8.33%) towards the fimbrial end of the tube. 8 (66.67%) of these tubal ectopics were noted in the right fallopian tube and 4 (33.33%) on the left side. All patients with tubal ectopics had completed their families and hence a decision was made to carry out salpingectomy in all these cases. Out of the 6 women diagnosed to have a cornual pregnancy at the time of laparoscopy, 5 (83.33%) underwent cornual resection whereas 1 patient presented with severe haemorrhage at the time of surgery and hence a decision was made to carry out hysterectomy in that case. No mortalities were recorded in any of the cases mentioned above.

DISCUSSION:

Female sterilization accounts for approximately about 30% of the

various methods of contraception used currently. Laparoscopic tubal sterilization is one of the leading methods of contraception being chosen by over more than 160 million couples worldwide as a surgical mode of sterilization. We have carried out tubal sterilization routinely using Ron-Manvi method in camps. During these procedures we have stumbled across several incidental findings such as unruptured ectopic pregnancies, patients with collection in POD suggestive of PID and unretrieved copper T's which had managed to erode through the uterine wall to come lay within the peritoneal cavity.

Pelvic inflammatory disease is an important public health problem with significant burden on the quality of life of the woman and on the health care system as well. The incidence of PID according to a few studies is suggested to be around 24-32% in India.^{3,4} Poverty and limited access to health services utilization are of the major risk factors predisposing the women to reproductive tract infections (RTIs). During our experience a total of 584 women were diagnosed of pelvic inflammatory disease. Majority of the women with PID were from the rural background suggesting that probably a low level of education coupled with poverty and the lack of proper sanitation facilities might have contributed to the development of PID in these women. Female sterilization has been found to be a significant predictor of PID in India.^{3,5} 183 out of these 584 women had an IUCD in situ suggesting that probably the use of contaminated IUCD, alteration of the cervicovaginal milieu and compromised host defenses against these pathogens predispose the patient to vaginitis and cervicitis. Also there have been cases of ascent of infections through the thread of IUCD to the uterus has also been recorded in various studies. Hence apart from suctioning off the collection and the patient was started on medical management post operatively for the management of PID. These women were also taught about the importance of hygiene in order to avoid any future recurrence or complications.

Ectopic pregnancy refers to the implantation of the blastocyst outside the uterine cavity in an area which is not lined by the endometrium and uterine musculature. It is becoming a much common occurrence now with the advent of in vitro fertilization and artificial reproductive techniques. Ectopic pregnancies constitute for about 2% of the first trimester pregnancies⁶ and majority of them i.e. 98% of them are in the various parts of the fallopian tube and out of these 70% are in the ampullary region, 12% isthmic, 11.1% in the fimbrial end. 3.2% ovarian, 2.4% interstitial and 1.3% in the abdominal cavity.⁷ Usually laparoscopy is now considered to be the standard of care for the management of tubal ectopics and even ruptured tubal pregnancies can be managed effectively in the hands of a trained laparoscopic surgeon. Those patients in whom all techniques have to achieve hemostasis have failed or those cases with irreparable tubal damage or in those cases in which the women have already completed their families a decision can be made to go ahead with salpingectomy. Methotrexate is considered to be an alternative to surgical management in select cases where the inclusion criteria for medical management is satisfied including compliance with follow up evaluation.

A similar statistics of ectopic pregnancy was found in our experience as well when we noticed that out of the 12 tubal ectopics noted in our patients 9 (75%), 2(16.67%) and 1(8.33%) were found in the ampullary, isthmus and fimbrial end of the tube respectively. These patients with ectopic tubal pregnancies had all completed their families and hence a decision was made to carry out salpingectomy in these patients. No further complications were noted in any of the patients on follow up and in these cases laparoscopy aided in avoiding any future complications such as rupture of the tubal pregnancy which might have been fatal and life threatening for the patient.

Cornual or interstitial gestation refers to the occurrence of pregnancies in which the fertilized embryo is implanted in the

interstitial part of the fallopian tube which lies within the muscular wall of the uterus. 8 Cornual pregnancies account for about 2-4% of ectopic pregnancies and is said to have a mortality range of 2-2.5%. these types of ectopic pregnancies pose a significant diagnostic and therapeutic challenge and are associated with a greater maternal mortality risk than the ampullary ectopic pregnancies. Due to its location, the diagnosis of a cornual pregnancy is particularly tricky.

Cornual gestation was found in 6 women in our experience. These women did not have any knowledge about the current pregnancy and hence these ectopic pregnancies were an incidental finding. All 6 women underwent laparotomy and out of the 6, 5 underwent cornual resection and 1 patient had severe haemorrhage at the time of surgery and hence had to undergo a total abdominal hysterectomy.

Intra uterine contraceptive device (IUCD) is another long-term contraceptive method commonly employed in our country. It is used by more than 150 million women around the world making it the most widely used reversible method of contraception. Usually IUCD can have a shelf-life anywhere from 2 years to 10 years depending on the type. In our experience while conducting laparoscopy for tubal sterilization we found 4 cases in which the IUCD's were left behind for a longer time than recommended and hence these IUCD's had got misplaced. In 2 of the cases the IUCD had eroded the posterior wall of the uterus and was lying within the peritoneal cavity and this was surrounded by clumped up bowel loops which had formed a plug and thus the uterine perforation had gone unnoticed and the patients were asymptomatic and did not present with features of peritonitis other than the occasional lower abdominal pain which they had disregarded as unimportant and hence had not reported to the doctor. In other two women the IUCD had migrated through the wall but had not yet perforated the uterine wall through and through. These women had failed to follow up for the removal of IUCD and thus had ended up with the above mentioned complications. At the time of IUCD insertion it is advisable to make evident to the women about the complications associated with the insertion and about the consequences of failing to follow up with a gynaecologist for the removal of the IUCD. The low level of education maybe a major contributory factor to this complication. Hence all women should be strictly advised to report back to their gynaecologist for the removal of an IUCD at the recommended time.

Thus laparoscopy being carried out for with the aim of achieving sterilization not only helped us in reaching this goal but also proved to be an accurate diagnostic tool for the identification of those patients with conditions who required immediate attention and further management before the development of more life threatening complications.

CONCLUSION:

Laparoscopy is a safe and effective procedure in the hands of an experienced surgeon with minimal morbidity and mortality to the patient even in the presence of complications such as ectopic pregnancies. During laparoscopy, direct visualization of the pathology and the rest of the abdominal cavity is feasible which will be helpful in planning out the further management for the individual case as and when required. Laparoscopy thus helped not only in the better management of the patient's condition but also played a major role in reducing the mortality in a few of these cases if the ectopic pregnancies had gone undiagnosed until they ruptured.

Laparoscopic tubal sterilization due to the use of contaminated instruments during tubal ligation is also implicated as a cause of PID. So care has to be taken to ensure that the instruments being used are sterilized in the standardized procedure to avoid this complication especially in a setting like ours wherein hundreds of procedures are carried out in camp settings in remote places of the country with minimal medical facilities.

Laparoscopy carried out with the intent of achieving sterilization not

only helped in controlling the birth rate by female sterilization but also helped us in picking up those women with life threatening conditions such as ectopic pregnancies and uterine perforations secondary to an IUCD which might have been easily missed until the patient developed serious complications related to these complications.

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