

Original Research Article

Study of complications during DPL surgeries in GMH Koti Hospital

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Abstract: The aim of this study is to evaluate the cases of DPL done in GMH Koti Hospital regarding the complications and its management. This study was conducted in GMH, Koti Hospital, for a period of two years between April 2014 to March 2016. It was done in 1490 patients. General and Gynaecology examinations, MTP, hysterotomy, LSCS, menstrual disorders were done. The cases were personally attended during the procedure and postoperative follow up was done. Double puncture laparoscopy was seen the most in age group of 25-30, the least was observed in age group of 20-25 and above 35. Biparous had 53% which was the highest and the least was seen in uniparous which were 2%. Big hematoma needs exploration, omental prolapse, bowel injury which was treated with laparotomy and anastomoses. In the entire series of cases, technical failures occurred in 3 cases, surgical difficulties occurred in 13 cases. DPL operation is a safe and effective procedure. Can be adopted for camps as the complication rate is minimal if the selection criteria are fulfilled and operative care is taken perfectly.

Keywords: DPL, Double puncture laparoscopy.

INTRODUCTION:

Laparoscopic surgery, also called minimally invasive surgery (MIS), band aid surgery, or keyhole surgery, is a modern surgical technique in which operations are performed far from their location through small incisions (usually 0.5–1.5 cm) elsewhere in the body. There are a number of advantages to the patient with laparoscopic surgery versus the more common, open procedure. Pain and haemorrhaging are reduced due to smaller incisions and recovery times are shorter [1]. The key element in laparoscopic surgery is the use of a laparoscope, a long fiber optic cable system which allows viewing of the affected area by snaking the cable from a more distant, but more easily accessible location. There are two types of laparoscope: a telescopic rod lens system, that is usually connected to a video camera (single chip or three chip), or a digital laparoscope where the charge-coupled device is placed at the end of the laparoscope. Also attached is a fiber optic cable system connected to a 'cold' light source (halogen or xenon), to illuminate the operative field, which is inserted through a 5 mm or 10 mm cannula or trocar [2, 3].

The abdomen is usually insufflated with carbon dioxide gas. This elevates the abdominal wall above the internal organs to create a working and viewing space. CO₂ is used because it is common to the

human body and can be absorbed by tissue and removed by the respiratory system. It is also non-flammable, which is important because electrosurgical devices are commonly used in laparoscopic procedures [4]. Laparoscopic surgery includes operations within the abdominal or pelvic cavities, whereas keyhole surgery performed on the thoracic or chest cavity is called thoracoscopic surgery. Specific surgical instruments used in a laparoscopic surgery include: forceps, scissors, probes, dissectors, hooks, retractors and more [5, 6]. Laparoscopic and thoracoscopic surgery belong to the broader field of endoscopy. India is the second most populous country in the world with a population growth rate of 1.74% contributing to 20 % of births worldwide. In the peripartum period or at any time from pregnancy, tubal ligation can be performed. Half of female sterilizations are interval sterilizations and the other half are performed at the time of caesarean or postpartum. Mostly interval sterilizations are performed adopting double puncture laparoscopy. This study was conducted to analyse the complications of Double puncture laparoscopy in GMH, Koti Hospital.

MATERIALS AND METHODS:

This study was conducted in GMH, Koti Hospital, Hyderabad for a period of two years between April 2014 to March 2016. It was done in 1490 patients.

The selection criteria were strictly followed so that it doesn't interfere with the interpretation of results. General and Gynaecology examinations, MTP, hysterotomy, LSCS, menstrual disorders were done. The cases were personally attended during the procedure and postoperative follow up was done. Exclusion criteria were patients with medical disorders, decompensated cardiac diseases, respiratory diseases and HB less than 8 gm %. During the period of April 2014 to March 2015, DPL were 742 and MTP +DPL were 9. During the period of April 2015 to March 2016, DPL were 728 and MTP+DPL were 11.

RESULTS:

Table 1: Age distribution

Age group	Percentage
20-25	20%
25-30	35%
31-35	40%
Above 35	5%

Table 1 show that double puncture laparoscopy was seen the most in age group of 25-30; the least was observed in age group of above 35.

Table 2: Parity

Parity	Percentage
P1	2%
P2	53%
P3	30%
P4	10%

Table 2 shows that biparous had 53% which was the highest and the least was seen in uniparous which was 2%.

Table 3: Complications of DPL surgery

Abdominal wall complications	Number of cases
Surgical Emphysema due to extra peritoneal extravasation of CO ₂	6
Haematoma of abdominal wall. Small hematoma controlled with deep sutures.	10

Big hematoma needs exploration, omental prolapse, bowel injury which was treated with laparotomy and anastomoses.

Table 4: Direct complication

Direct complication	Number of cases
Tubal transaction	10
Inadequate ring application	12
Dropped rings-Inability to apply rings due to oedematous and friable tubes	8
Mesosalpingeal tear	2
Due to adhesion and adherent tubes	13

In the entire series of cases, technical failures occurred in 3 cases, surgical difficulties occurred in 13 cases.

Table 5: Early post op complications

Abdominal wall complications	Number of cases
Post op pelvic pain	150
Shoulder pain	2
Mild wound sepsis	21
Severe wound sepsis	2
Failure of DPL (Double puncture laparoscopy) operation(may be breakage of rings or wrong application)	3

DISCUSSION:

Many studies have been reported regarding the double puncture laparoscopy. Sudhir Babu Palli *et al.*; [7] compared the complications between the double puncture laparoscopic and conventional tubal ligation sterilization methods. There are 1000 acceptors were divided equally into two groups: 500 women underwent double puncture laparoscopic (DPL) sterilization and another 500 women undergone conventional tubal ligation (CTL). Both the groups were followed up for the period of two years. Each acceptor was personally interviewed and consent taken before the procedure. The interview was performed by multipurpose health workers of the particular rural areas. The mean age of DPL and CTL group were 24.4 years and 23.8 years respectively. Overall major morbidity in DPL acceptors was 1.6% when compared to CTL acceptors which was 1%. The minor morbidity in DPL acceptors was low (8%) in comparison with CTL acceptors (14.4%). The DPL procedure was clearly advantageous than the conventional tubal ligation procedure in terms of complications. Aruna V *et al.*; [8] conducted a prospective study in Department of family planning, Government General Hospital, Guntur; A.P. Study was conducted in Family planning unit, GGH, GUNTUR from Jan 2014-dec 2014. 200 cases of women undergoing DPL, 200 women undergoing CTL were personally interviewed before surgery and the data regarding age, literacy, last child birth were taken. Complications that occurred during procedure and after the procedure were noted and analyzed. The results were that most of the women acceptors of DPL and CTL fall in same age group i.e.21-30yrs. As the level of education increased, there was clear correlation in DPL acceptance. 77% of CTL acceptors were of low socioeconomic group compared to 62.5% in DPL acceptors. DPL acceptance was more in women with previous caesarean section (63.5%) than women who underwent normal delivery (36.5%). Risk of Major Intra operative complications in DPL was more than CTL. Minor postoperative complications are more with CTL than with DPL which were managed conservatively. They concluded that acceptance of

method of tubectomy is greatly influenced by age, mode of delivery, socioeconomic status and literacy. N. Chandrababha *et al.*; [9] conducted a laparoscopic sterilization camps were held in urban, rural and tribal areas from April 2010 to March 2015 and a total of 9,218 cases were done. The failure rates and complications were recorded and analyzed. The results were failure rate was seen in 0.13% of cases. Technical failure was mainly due to adhesions (0.06%) followed by pelvic inflammatory disease (0.03%). The commonest complication encountered was infection at the port site (0.9%) and bleeding from port site (0.66%). It concluded that laparoscopic sterilization by falope rings is getting more and more popular in our country. A camp approach is the best way of managing large number of women requiring sterilization in rural and tribal areas. Camp organization by a person experienced in laparoscopy and management of any complications that may arise makes the camps a safe alternative to modified Pomeroy's. Mhatre PN *et al.*; [10] had conducted a study in between January 1977 to December 1980, in 22 laparoscopic sterilization camps which were held in rural areas, where 5584 female sterilizations were performed. In K.E.M hospital in department of gynaecology and obstetrics, 830 laparoscopic sterilizations were performed. The results were that 95 % patients undergoing sterilization at camps were interval cases, compared to 17.54% in the hospital, Of the K.E.M patients, 38.31% were with first trimester abortions. Silastic bands were used in the majority of the cases at both camps and K.E.M hospital. In the camps, 80% were operated upon through a single puncture, 20 % were through double puncture. In K.E.M College, 95 % were operated through a single puncture and 5 % through a double puncture. No patient required in the camp exploratory laparotomy for management of the laparoscopy complications, but all got well with conservative treatment. In the hospital group, 4 patients with tubal transaction and 3 with bowel burns required an exploratory laparotomy. Those with tubal transaction managed by ligation of the cut ends and had a uneventful recovery. Out of 3 patients with accidental bowel burns, 2 recovered after resection of burnt bowel and anastomosis, but the third one expired due to generalised peritonitis following resection anastomosis operation. The mean stay in the camp was half to 1 day. After 1% required an overnight stay. In the K.E.M hospital, after silastic band application, the duration of hospital stay was 1 day, after the use of unipolar cautery 4 days, with minor complications 2 days, major complications 7-15 days. There were 3 failures out of 5584 (0.05%) in camps and 6 out of 830 (1.14%) in K.E.M hospital, In camps 2 patients had pelvic adhesion and 2 had gross obesity, making sterilization difficult, which was however carried out in all 4 cases. At the K.E.M hospital, 5 patients needed minilaparotomy for tubal occlusion due to peritubal adhesions. It was concluded that laparoscopic sterilization by silastic bands is getting

more and more popular in our country. A camp approach is the best way of managing large number of women requiring sterilization in rural areas.

CONCLUSION:

DPL operation is a safe and effective procedure. Can be adopted for camps as the complication rate is minimal if the selection criteria are fulfilled and operative care is taken perfectly.

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