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Acute Pain Abdomen in Post Tubal Ligated Women – A Study in a Tertiary Care Center

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Abstract **Original Research Article**

Acute pain abdomen in the reproductive age group women is a relatively common condition with various gynecological and non-gynecological etiological factors. Among the gynecological causes, Torsion of adnexa of the uterus is relatively common. Methods: This study was carried out in the Department of Obstetrics and Gynaecology, Kalinga Institute of Medical Sciences and hospital Bhubaneswar, Odisha. Inclusion criteria were women of reproductive age group, post tubal ligated women, those with acute abdominal pain diagnosed by USG. Exclusion criteria were pain abdomen caused by Non-gynecological causes as diagnosed by ultrasonography, women without permanent tubal ligation. In the study n=20 cases with acute abdominal pain. A detailed history was obtained including the duration of married life, parity, duration of tubal ligation, type of pain, its radiation, localization were established. A complete clinical examination was done. Patients underwent USG for diagnosis and these patients underwent Laparoscopic surgery and the intra-operative findings of each patient were recorded. Results: During the study period 20 cases were detected the age range was from 29-40 years the average age was 33.06 ± 2.89 years. The duration of married life was 7 -14 years and an average was 9.9 ± 2.15 years. The parity range was from 2-4 in most of the cases. Most of the cases were diagnosed as *Hydrosalpinx* in 10 cases, cystic adnexal masses, 1 simple ovarian cyst, 1 case of paraovarian cyst and 2 chocolate cysts were found postoperative adhesions were found in 2 cases ruptured corpus luteum was found in 1 case. Conclusion: Within the limitations of the present study it can be concluded that acute abdominal pain in women with a history of tubal ligation should arise a high degree of suspicion of torsion hydrosalpinx or hematosalpinx. Therefore elective bilateral salpingectomy could be considered in patients with permanent sterilization techniques in order to prevent future incidences of acute pain abdomen in the reproductive age group women.

Keywords: Acute pain abdomen, post tubal ligated women, tertiary care center.

INTRODUCTION

Acute abdomen is a condition that requires a quick response. However, there is a myriad of conditions responsible for the pathophysiology of the acute abdomen. Accurate diagnosis is one of the keys for accurate treatment and prognosis. Since the origin of the acute abdomen is varied it may be managed by many kinds of medical specialists. The etiology of acute abdomen in women can be divided into the gynecological or obstetrical causes or non-gynecological like gastrointestinal, urinary tract causes. The differential diagnosis of acute abdomen in women can be divided into the gastrointestinal, urinary tract, gynecological or obstetrical causes. The clinical presentation of inflammation originating from the uterus, the right ovary, and the fallopian tube is similar to that of acute appendicitis because of the proximity of these structures [1-3]. Studies in women of childbearing age with PID and appendicitis have revealed varying results [4]. Some studies have shown that factors favoring in the diagnosis of Pelvic inflammatory disease are vaginal discharge, urinary symptoms, prior Pelvic inflammatory disease, tenderness outside the right lower quadrant cervical motion tenderness [5, 6]. An aggressive approach is usually the course of action during a suspected acute abdomen case [7, 8]. One of the important causes of acute abdomen in post tubal ligated women is Hydrosalpinx; it is an obstruction of distal fallopian tube resulting in fluid accumulation. It may remain asymptomatic but can also be presented in form acute abdominal pain. The walls of the fallopian tube are thickened by inflammation and tube become swollen oedematous the process may take years to occur, the walls become devoid of the muscle and the whole tube expands in form of a retort-shaped bag of fluid. The hydrosalpinx may be visible by transvaginal sonography proposed by Wit *et al.* in [9]. The

transvaginal ultrasound prior to HSG/ laparoscopy helps in the identification of up to 34% of cases of hydrosalpinx. However, in many cases, it is likely to be missed if one relies on ultrasound alone [10]. The specific studies regarding the acute abdominal pain in post tubal ligated women are very sparse. We in the present study tried to evaluate the causes of acute abdomen in women presenting our hospital with bilateral tubal ligation and the treatment outcome in these women.

MATERIALS AND METHODS

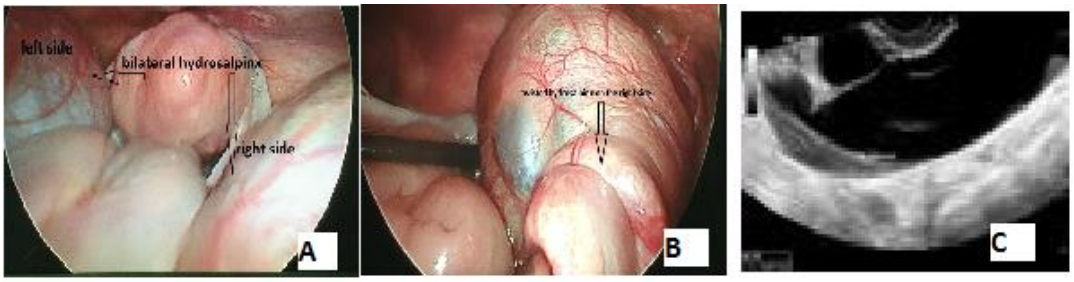
This study was carried out in the Department of Obstetrics and Gynaecology and Radiology, Kalinga Institute of Medical Sciences and Hospital Bhubaneswar, Odisha. Institutional Ethical committee permission was obtained for the study. Written consent was obtained from all the participants of the study after explaining the details of the study in the local language. Inclusion criteria were women of reproductive age group, post tubal ligated women, those with acute abdominal pain diagnosed by ultrasonography. Exclusion criteria were pain abdomen caused by Nongynecological causes as diagnosed by USG, women without permanent tubal ligation. Based on the inclusion and exclusion criteria during the study period of 6 months from June 2017 to December 2017, we found 20 cases with acute abdominal pain. A detailed history was obtained including the duration of married life, parity, duration of tubal ligation, type of pain, its radiation, localization were established. A complete clinical examination was done. Patients underwent USG for diagnosis and these patients underwent Laparoscopic surgery and the intra-operative finding of each patient was recorded and analyzed all the patients underwent bilateral salpingectomy. The specimen was collected and sent for histopathological evaluation for confirmation of diagnosis. All the patients recovered well postoperatively and they were discharged in 2 or 3 days. Follow up done after 7 days, 15 days and 3 months postoperatively for any complication.

RESULTS

Sl No	Age	Parity			BTL			Duration of BTL	USG findings		Operative Findings	
		2	3	>4	concurrent	lap	Minilap		Adnexal Masses	Any other	1	2
1	32	1	0	0	1	0	0	5	1	0	Rt hematosalpinx	Lt Hydrosalpinx
2	30	0	1	0	1	0	0	8	1	0	Rt Hematosalpinx	Lt Hydrosalpinx
3	33	1	0	0	0	0	1	10	1	0	Lt Twisted Hydrosalpinx	Rt Hydrosalpinx
4	34	0	0	1	0	0	1	4	1	0	Lt Twisted Hydrosalpinx	Rt Hydrosalpinx
5	32	1	0	0	0	1	0	5	1	0	Lt Hydrosalpinx	Rt Hydrosalpinx
6	31	0	0	1	0	1	0	6	1	0	Corpus Luteal Cyst	
7	30	0	1	0	1	0	0	5	0	1	Post-Operative Adhesion	
8	35	1	0	0	0	1	0	4	1	0	Simple Ovarian Cyst	
9	29	1	0	0	1	0	0	5	1	0	Left Hydrosalpinx	Rt Hydrosalpinx
10	36	0	1	0	0	1	0	8	0	0	long adnexal structures	
11	32	0	1	0	0	1	0	4	1	0	Rt Hematosalpinx	Lt Hydrosalpinx
12	35	0	1	0	0	1	0	6	1	0	Ruptured CL	
13	38	0	0	1	1	0	0	8	1	0	Post Op Adhesion	
14	32	1	0	0	1	0	0	6	0	1	Mild Endometriosis	
15	33	1	0	0	0	1	0	4	1	0	Long Ovarian Pedicle	
16	34	0	1	0	0	0	1	5	1	0	Left Hydrosalpinx	Rt Normal
17	35	1	0	0	0	1	0	9	1	0	Rt Hydrosalpinx	Lt Normal
18	31	1	0	0	0	1	0	4	1	0	Rt Hydrosalpinx	Lt Tube Normal
19	40	0	1	0	1	0	0	8	1	0	Paraovarian Cyst	
20	29	1	0	0	0	1	0	4	1	0	Left Side Chocolate Cyst	

During the study period, 20 cases were detected the age range was from 29-40 years the Mean age was 33.06 ± 2.89 years. The duration of married life was 7 -14 years and the average was 9.9 ± 2.15 years.

The overall duration of BTL was ranging from 4 to 10 years and the mean duration of bilateral tubal ligation was 5.9 years. The parity range was from 2-4 in most of the cases. Most of the cases were diagnosed as Hydrosalpinx in 10 cases, (50%), hematosalpinx in 3 cases, simple ovarian cysts one case (5%), paraovarian cysts(5%), endometriotic cysts (10%), were found in 2 cases postoperative adhesions (10%), long adnexal structures in case were found in 2 cases (10%), ruptured corpus luteum was found in 1 case (5%).



A :Bilateral hydrosalpinx image; B:Intraoperative image of twisted hydrosalpinx; C:Usg picture of hydrosalpinx

DISCUSSION

In the present study, we found the most common cause of acute pain abdomen in post tubal ligated women due to Hydrosalpinx. Hydrosalpinx has been considered to the result of iatrogenic origin post tubal ligation or it may the result of the pelvic inflammatory disease. Distal occlusion may be the result of endometriosis [11, 12]. Cases of genital tuberculosis are also another important factor especially in developing countries [13]. Hydrosalpinx is also considered an intermediary step in the development of pelvic inflammatory disease. Hydrosalpinx usually grows slowly over a period of years and tends to remain asymptomatic clinically. It may get infected to produce pyosalpinx hence the treatment is necessary. In this study, the average period post tubal ligation was 5.9 years. A study by Russin LD found the average; 3.8 years elapsed between tubal sterilization and clinical presentation [14]. In our study, all the patients with hydrosalpinx underwent salpingectomy as we selected the patients of post tubal sterilization. In the present circumstances where there is an increase in numbers of cases of surgical sterilization cases of iatrogenic hydrosalpinx are on the rising. The cause could be due to injury initiated by tubal ligation, fulguration or application of mechanical clip or band. Although theoretically a single point interruption of fallopian tube should not produce any abnormalities. Gregory MG studying cases of hydrosalpinx in post tubal ligated women and termed it as post tubal ligation syndrome [15]. He found that the factors for the development of hydrosalpinx are due to tube lined with secretory epithelium that is closed at both ends and secretions within this close system will produce dilatation. The clinical symptoms of iatrogenic hydrosalpinx are not specific, however; suspicion of this condition should arise if there is a previous history of tubal ligation or tubal ligation followed by hysterectomy with conservation of ovarian function. It is not uncommon to find hydrosalpinx with torsion; usually, the patients with torsion have severe acute pain which is a sign of torsion including impending infarction and gangrene. The diagnosis is often established by ultrasound and CT. The non-torsive hydrosalpinx will be visible as thin-walled adnexal cyst and torsion with infraction may be seen as a large cyst with thicker wall and presence of internal debris due to venous congestion and internal hemorrhage [14]. Many studies have indicated that torsion of the fallopian tube is common on the right side as compared to the left due to the presence of sigmoid colon on the left side or due to slow venous flow on the right side that may result in congestion [15]. An entity called post tubal ligation syndrome where a high incidence of pelvic disorders occurs after tubal ligation, mostly menstrual disorders-menometrorrhagia is the main disorder with 54% of patients and incidence of pelvic disorders were 24% [16, 17]. In a recent review article a bilateral tubal ligation had been found to decrease risk of any ovarian cancer by 13% to 41% compared to 42% and 78% for bilateral salpingectomy [18]. In another systematic review, opportunistic bilateral salpingectomy in patients who underwent hysterectomy in low risk post meuopausal women decreases the incidence of hydrosalpinx [19]. nIn the present study, we found 4 cases of cysts one each of simple ovarian cyst, corpus luteal cyst, para ovarian cyst, and chocolate cyst. Ovarian cysts have been found to occur in 5–7% of all women [20]. Cysts occur in ovaries due to incomplete reabsorption of an immature follicle [21]. Patients with 3 – 10 cm cysts are managed with cystectomy. In our study, we managed all the cases of cysts with cystectomy and postoperative follow up after 6 months was uneventful.

CONCLUSION

Within the limitations of the present study, it can be concluded that acute abdominal pain in women with a history of tubal ligation should arose a high degree of suspicion of torsion hydrosalpinx or hematosalpinx. Therefore elective bilateral salpingectomy could be considered in patients with

permanent sterilization after a thorough counseling in order to prevent future development of hydrosalpinx and its associated complications along with hope of decreased incidence of epithelial ovarian cancers.

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