ORIGINAL ARTICLE

Laparoscopic Management of Ectopic Pregnancy

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ABSTRACT

Background: Laparoscopic management of gynaecological conditions is gaining popularity due to reduced morbidity and shorter hospital stay as well as for better cosmetic outcomes than open surgery. Although laparoscopic intervention is not a new technique for management of ectopic pregnancy in advanced countries; it is still not as common in Pakistan.

Methods: All cases of ectopic pregnancy presenting at Hameed Latif Hospital from 1st Jan 2015 to 31st Jan 2016 were enrolled in this study. Brief history and clinical findings were noted. Trans-vaginal ultrasound and relevant laboratory tests were performed and patients were managed with laparoscopic approach. Findings on laparoscopy were noted and appropriate interventions were undertaken. Any complications identified per-operatively or before discharge from the hospital were also noted. Data were entered in and analysed with SPSS version 21 for windows.

Results: Mean age was 29.2 yrs (SD±5.29), 22(75.9%) patients did not have any past surgical history while other 7 (24.1%) had LSCS previously. Lower abdominal pain was the most frequent presenting symptom found in 27 (93.1%) patients. Mean systolic BP was 108mmHg (SD±11.67) with a range of 80 to 130 mmHg. Abdominal tenderness was present on abdominal examination in 20(69%) patients. Laparoscopic surgery was an emergency procedure in 23(79%) cases and elective in the rest (21%). Salpingectomy was the most common procedure performed in 14 (48.3%) patients; other procedures included salpingostomy, milking and others. Blood transfusion was required in 11 (37.9%) patients and there were no post-operative complications. No patient required laparotomy and in all patients diagnosis was found to be correct.

Conclusion: Laparoscopic management of ectopic pregnancy is a safe technique with low morbidity rates.

Key Words: Amenorrhea LaparoscopyEctopic pregnancy Salpingectomy

INTRODUCTION:

Ectopic pregnancy is a frequent complication of early pregnancy with an incidence of 0.5-4.4%.[1,2,3]if not managed in time, it can have devastating consequences for the affected woman and may even lead to death. Conventionally ectopic pregnancy is managed by open surgery[4] with its attendant risks of relatively prolonged morbidity, longer hospital stay and adverse pain scores. Laparoscopic management of gynaecological conditions is gradually gaining popularity both amongst patients and gynaecologists due to low morbidity and reduced need for hospital admission coupled with absence of scar, cosmetic impact of which is significant in case of conventional surgery. Although laparoscopic intervention is not a new technique for management of ectopic pregnancy in the western countries, it is still in the early phases of acceptance in Pakistan due to only a limited number of gynaecologists trained in laparoscopic surgery and lack of experience of those few who do perform diagnostic laparoscopies. Laparoscopic surgeryis being routinely offered at HameedLatif hospital Lahore for various gynaecological conditions including ovarian cysts, uterine lieomyomas, hysterectomiessince 2008. We present our experience of laparoscopic management of ectopic pregnancy cases over a period of 13 months.

MATERIAL AND METHODS

It was a prospective cross-sectional observational study carried out at HameedLatif Hospital Lahore Pakistan from 1 Jan 2015 to 31 Jan 2016. Approval of the hospital ethical committee was taken and consent was obtained from the patients. All patients with the diagnosis of ectopic pregnancy presenting to HameedLatif Hospital and undergoing laparoscopic management were enrolled in this study by non-probability sampling. A brief history including history of present

symptoms, past history of surgical procedures, obstetric history, presence of any co-morbidity was obtained followed by recording of vital signs and abdominal examination. Relevant laboratory tests including β-hCGwere taken and a trans-vaginal ultrasound was done to confirm the clinical diagnosis of ectopic pregnancy. Findings were noted in the Proforma. Patients underwent laparoscopy and appropriate intervention according to the findings on laparoscopy was carried out. Findings on laparoscopy as well as the procedure which was carried out were also noted on the Proforma. Any complications identified before the patients were discharged from the hospital were also recorded. Data were entered in SPPS version 21 for windows and descriptive statistics were used to analyse the data.

RESULTS

Total 29 patients were enrolled in the study over 13 months from 1st Jan 2015 to 31st Jan 2016. Mean age of the patients was 29.2 years (SD±5.29) with a range from 22 to 43 years. Most patients (72.4%) were aged 30 years or less. Fourteen (48.2%) patients were primi-gravida while others included women with 2nd to 6th pregnancy. Fifteen (51.7%) patients had never delivered a baby before and 5 (17.2%) had had one or more abortions in past. There was no history of any past surgical procedure in 22 (75.9%) patients while 7 (24.13%) had undergone one or more caesarean section in the past. Fifteen (51.72%) women were unsure about last menstrual period, while one had not had periods for over 10 months due to lactational amenorrhoea. Mean duration of amenorrhoea in 13 women who were clear about their last periods was 55.15 (SD±22.55) days with a range of 19 to 107 days. Lower abdominal pain was the most frequent presenting symptom which was seen in 27(93%) patients. Other symptoms included vaginal bleeding (31%) and vomiting (10.3%). No patient presented without a history of amenorrhoea. Lower abdominal tenderness was present in 20(68.96%) patients and was the most common finding on clinical examination. On transvaginal ultrasound a right sided lesion was found in 15 (51.7%) and on left side in 14 (48.3%). TVS identified an adnexal mass in 27 (93.1%) patients, foetal pole was identified in 18 (62.15%) whereas foetal cardiac activity was present in 12 (41.4%) cases.Free fluid in pelvis was seen in 16 (55.2%) cases.

Laparoscopic procedure was done in emergency in 23 (79%) cases. Operative findings revealed a haematoma or haemo-peritoneum in 24 (82%) cases with a mean volume of 825 ml

Table 1: Patient profile, clinical findings and lab values

Age Mean (SD)(Range)	29.21 (±5.29) (22-43)		
Gravidity Mean (SD)(Range)	2.21 (±1.47) (1-6)		
Lower abdominal pain N (%)	27 (93.1%)		
Vomiting N (%)	3 (10.3%)		
Vaginal bleeding N (%)	9 (31%)		
Days since LMP (N=13), (mean)(range)	55.15 (SD±22.55)(19-17)		
Heart Rate Mean (SD)(Range)	91.45 (±7.89) (80-110)		
Systolic BP Mean (SD)(Range)	109.28 (±11.67) (80-130)		
Diastolic BP Mean (SD)(Range)	71.03 (± 9.39) (50-80)		
Abdominal tenderness N (%)	20 (68.96%)		
Trans-vaginal ultrasound	Side of lesion	Right	15 (51.7%)
		Left	14 (48.3%)
	Foetal Pole	Present	18 (62.1%)
		Absent	11 (37.9%)
	Foetal Cardiac activity	Present	12 (41.4%)
		Absent	17 (58.6%)
	Adnexal mass	Present	27 (93.1%)
		Absent	2 (6.9%)
	Free fluid in pelvis	Present	16 (55.2%)
		Absent	13 (44.8%)

Table 2: Outcomes of Laparoscopic (Lap) surgery

Type of Surgery	Elective	6 (20.7%)
	Emergency	23(79.3%)
Intervention	Salpingostomy	9 (31%)
	Salpingectomy	15 (51.72.3%)
	Milking	5 (17.2%)
	Partial ovarian resection	1 (3.44%)
Blood transfusion N(%)	11 (37%)	
Findings on lap surgery	Haematoma/haemo-peritoneum	24 (82%)
	Volume (Ml) of haematoma/haemo-peritoneum Mean (SD) (Range)	825 (±788.48) (50-3000)
Post-op hospital stay in days Mean (SD) (Range)	2.17(±0.384) (2-3)	

(SD±788.4) ranging from 50 to 3000ml. In 3 (10.3%) cases ovaries were involved, one of these was a case of ovarian ectopic in which partial ovarian resection was done and in other two cases the adnexal mass included a fallopian tube and ovary on one side managed with salpingectomy. Salpingectomy was the most common laparoscopic intervention which was carried out in 14 (48.27%) patients followed by salpingostomy in 9 (31%) and milking in 5(17.2%). Partial ovarian resection was carried out in a single (3.44%) case of ovarian ectopic.

Blood transfusion was required in 11 (37.9%) patients due to excessive blood loss from ruptured ectopic. There were no operative failures causing conversion to open surgery and no complications of laparoscopic surgery were identified during surgery or before discharge from thehospital.

DISCUSSION

Manhes and Bruhat[5] et al described first laparoscopic procedure for ectopic pregnancy in 1980. Use of laparoscopy for gynaecological procedures has since been on the rise and has almost replaced conventional surgery for several conditions in the western world. NICE recommends that a laparoscopic approach should be preferred to open approach for the management of ectopic pregnancy[6] and the surgeons should be competent to perform laparoscopic surgery. Safety and efficacy of laparoscopic surgery for acute gynaecological conditions including ectopic pregnancy have been demonstrated in several international studies[7,8]. Chronic ectopic pregnancy is sometimes found during diagnostic laparoscopy carried out for lower abdominal pain which can be managed during the same procedure[9]. There arehowever; only a few local published studies evaluating safety and efficacy of laparoscopic surgery for ectopic pregnancy.

A study by Memon et al[10]was carried out from 2010 to 2013 included 48 cases of different acute gynaecological conditions including 23 cases of ectopic pregnancy. The study showed that laparoscopic surgery was safe as well as effective for acute gynaecological conditions with low morbidity and mortality. There was only minimal intra-operative bleeding and procedure was converted to open surgery in 2(14.58%) cases. Even these low rates of complications were not encountered in our study.

There were only few symptoms reported by patients in our study and none had syncope, urinary symptoms or shoulder pain as often found in patients with ectopic pregnancy. Adnexal mass was seen more often in our study (93.1%) than it was in a study by Ehsan et al[11] (74.1%); however Salpingectomy was the most common procedure (53.2%) in our study (51.72%), a finding also reported by Ehsan etal.

In another study carried out in India Duggal et al[12] compared laparoscopy and laparotomy for ectopic pregnancy and found that mean duration of hospital stay was 7 days for laparotomy and only 2-3 days for laparoscopy with reduced pain scores for laparoscopic procedures. This is in conformity to our study where mean hospital stay after laparoscopic surgery was 2.17 days.

HameedLatif hospital is a private sector hospital and most of the patient clientele belongs to higher middle or upper socioeconomic class. This could possibly have led to a bias as patient sample may not be true representative of the general population. Further larger studies including patients from all strata of society will be more valid in confirming or refuting the results of this study and incidence in general population.

CONCLUSION

Laparoscopic surgery for ectopic pregnancy is a safe and effective approach with very little morbidity and mortality.

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