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Laparoscopic Cholecystectomy In Pregnancy: A Preliminary Report

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Abstract

Laparoscopic cholecystectomy was carried out during the late first, and early second trimesters (11th- 20th weeks) of pregnancy in nine pregnant ladies suffering from persistent biliary troubles not responding to conservative medical measures. All patients passed unremarkable postoperative cources. Eight patients passed to full term, and delivered healthy newborns. Pregnancy of the ninth case is still progressing normally at the time of this report. Laparoscopic cholecystectomy appears to be considered a safe procedure, and an optimal management in this particular situation when carried out during the proper timing. Further studies are recommended to determine these preliminary results.

Introduction

THE entire spectrum of biliary diseases encountered in pregnancy provides challenges in diagnosis and treatment, since successful management is measured by foetal, as well as maternal morbidity and mortality.

The management of symptomatic cholelithiasis during pregnancy is controversial. Many authors advise conservative nonoperative management [1, 2], while aggressive surgical management is advocated by others [3, 4]. Most of the reports are corresponding together regarding avoidance of surgical intervention in the first trimester.

This preliminary report is dealing with the surgical approach to this difficult clinical problem. Nine cases of laparoscopic cholecystectomies performed during the

first half of pregnancy (11-20) weeks) for the management of persistent symptomatic cholelithiasis are discussed.

Patients and Method

Nine pregnant ladies with persistent symptomatic cholelithiasis, not responding to conservative medical measures were included in the present report. Patients were managed at Benha university hospital between November 1990, and October 1992. The average age of the ladies was 29.7 years (range 21-38). The estimated gestional age was between 11 and 20 weeks.

All the patients were referred to the surgical department with marked symptomatic cholelithiasis. Patients were suffering badly from repeated attacks of biliary colics, right hypochondreal pain, severe vomiting, and fatty dyspepsia, which did not respond satisfactory to conservative medical measures. Patients were subjected to thorough obstetrical and surgical evaluation. Full laboratory profile including blood count, blood sugar, and kidney, and liver function tests were requested. Abdominopelvic ultrasonographic examination of all patients was done.

Laparoscopic cholecystectomy was performed with the standard approach with some specific technical modifications due to the intrautrine pregnancy: i. Peri, intra, and postoperative continuous foetal and utrine monitoring were needed to follow foetal status, and uterine contractility, ii. Two measures were followed to prevent postoperative deep venous thrombosis: application of antiembolic stocking to both lower limbs, and slight rotation of the operating table to left lateral position to displace uterus from the inferior vena cava. Elastic stocking was used instead of the unavailable pneumatic sequential compression device. iii- We have used the open laparoscopic technique, in which the initial placement of the umbilical trocar was achieved through placement of Hasson's Canula [5] by surgical exposure to avoid injury of the gravid uterus. Hasson's Canula has the advantage of having a rounded introducer.

Patients were followed up for the occurrence of any surgical, or obstetrical complications during the early postoperative period. Hospital stay was recorded. Regular follow up by the obstetrician was a routine till the establishment of delivery.

Results

Twenty pregnant ladies with symptomatic cholelithiasis were examined during the period of the study, however, only nine ladies were considered suitable candidates for surgery. Indications for surgery were based on failure of conservative medical measures, and the estimated gestional age (only 10 to 20 weeks).

All the 9 patients were suffering from frequent distressing attacks of biliary colics in addition to right hypochondreal pain (7 patients), severe vomiting (5 patients), flatualent dyspepsia (4 patients), and jaundice (one patient).

Repeated cources of conservative medical measures could not control the symptoms. Ultrasonographic examinations have shown that most of them (6 patients) have a capacious gall bladder with multiple small or moderate size calculi [3-6]. Two patients had small size gall bladder full of inumerable calculi. Single case of stone common bile duct was present in addition to the picture of chronic calcular cholecystitis.

The laboratory profile of most of the cases were generally within normal levels for age, and pregnancy. Significant bilirubin elevation, in addition to serum alkaline phosphatase, and liver enzymes (S. G. O. T., and S. G. P.T) occurred only in case number 7.

Eight patients passed unremarkable postoperative courses and could be discharged within 4 to 7 days. Minor wound sepsis occurred in two cases at the site of umbilical cannulation and could be easily managed by local dressings.

Case number 7 was subjected to ERCP and Dormia basket extraction of the stone obstructing the common bile duct, followed 4 weeks later by cholecystectomy. Patient passed smooth postoperative period and delivered vaginally at 39 weeks a healthy newborn.

Postoperative hospital stay was between 4-7 days (8 patients). Patients were able to leave the hospital at an earlier stage but 2 to 3 days of foetal and maternal assessment were needed for proper evaluation before discharge. Longer hospital stay was needed in cases number 7 (calcular obstructive jaundice).

Six patients delivered vaginally normal healthy newborns at term. Caeserian section was applied in two cases at 38, and 39 weeks of pregnancy because of obstetric indications, both mothers and newborns have done well. One patient is still pregnant and progressing normally at the time of this report.

Discussion

Many surgeons still agree that pregnancy is a strong contraindications to aggressive surgical management of symptomatic biliary diseases [1,2]. It is apparently clear that the unfavorable view of surgical management is appropriately driven from the high rate of foetal loss associated with surgery in the first trimester, as reported by Green et al. (24%) [6], and Hiatt et al. (55%) [7].

In contrast, Kammerer [8] stressed the fact of non significant increase in perinatal mortality rates for most nonobstetrical operations, particularly for planned procedures carried out in the second trimester. Dixon et al [9] too, demonstrated optimal results with biliary surgery during the second trimester as measured by maternal mortality and morbidity, length of hospital stay, and foetal loss. They recorded also that 58% of their patients treated by conservative nonoperative measures had got

recurrent episode of biliary colic and 27% required two or three hospitalization.

Laparoscopic cholecystectomy in pregnancy was considered by several authors to be contraindicated for fear of injury to gravid uterus [10-11]. Obstetric literature restricted this contraindication to advanced intrauterine pregnancy. In the present report we restricted the operative intervention to the first half of pregnancy

Table (1): Age, Obstetric Presentation, Postoperative Outcome of the Studied group.

Case No.	Age	Grv	Par.	E.G.A weeks	Postop. compl.	Postop. hospital stay	Foetal loss	Obstetric outcome
1	33	4	3	15	-	4 days	-	Normal Vag. Deliv.
2	21	2	1	13	-	5 days	-	Normal Vag. Deliv
3	26	1	0	11	-	6 days	-	C.S. 38 w
4	34	3	1	18	Minor wound infection	7 days	-	Normal Vag. Deliv
5	27	5	3	11	-	4 days	-	C.S. 40 w
6	38	8	6	16	-	6 days	-	Normal Vag. Deliv
7	30	4	2	17	-	35 days	-	Normal Vag. Deliv
8	29	3	1	12	Minor wound infection	7 days	-	Normal Vag. Deliv
9	31	6	5	20	-	5 days	-	Pregnency still progressing

Grv. = Gravidity.
Par. = Pariety
E.G.A = Estimated gestational age
Vag. = Vaginal.
Deliv. = Delivery.

(only 11th - 20th week) where the uterus was below or maximally at the level of umbilicus, in addition to the use of open methods (Hasson's Canula) to avoid the possibility of uterine injury. Spirtos et al. [12] considered the first trimester to be a safe period to the use of laparoscopy where they performed 13 diagnostic laparoscopies during that period without maternal or foetal complications.

Decrease in maternal pain, narcotic requirements, incidence of respiratory depression, and early postoperative ambulation are advantages of laparoscopic versus open cholecystectomy. This decreased maternal morbidity leads to diminished incidence of foetal morbidity and foetal loss [13]. Successful laparoscopic cholecys tectomies during the second trimester of pregnancy and up to the 31 weeks were carried out by several authors without recording significant increase in maternal or foetal morbidity or mortality [3, 4, 13].

In the present report, nine successful open laparoscopic cholecystctomies were carried out during the first half of pregnancy (11-20 weeks), without maternal or foetal morbidity or mortality. Surgical management was decided for those patients with marked, and recurring biliary symptoms not relieved by medical treatment. Continuation of medical measures in such cases would be hazardous especially to those patients during their first trimester of pregnancy. Antibiotics, analgesics, and antispasmodic drugs may induce teratogenic effect on the foetus specially when several courses are given.

First half of pregnancy between 11th to 20th week was chosen as the optimal time for surgery, where the size of the uterus was below or maximally at the umbilicus. A larger size of the uterus is liable to be injured and adds to the difficulties of the procedure. No difficulties or complications were encountered on the four patients operated upon during their late first trimester. We are corresponding with the report of Spirtos et [12], that laparoscopic surgery is considered a safe procedure during the late first trimester especially in the absence of obstetric contraindications. A point which needs further study.

Although the present report is not yet large enough to make far reaching conclusions, yet we can consider open laparoscopic cholecystectomy a safe procedure, and an optimal management to those patients with marked and recurring biliary symptoms not relieved by medical treatment, specially when carried out during the proper timing (Late first, and early second trimesters). Further studies are recommended to ensure these prelimenary results.

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