Original Article

Scar Dehiscence in Patients Presenting with Scar Tenderness Due to Previous One Cesarean Section

Fareeha Khaliq Khan[1], Sadaf Khurshid[2], Shahnila Zafar[3], Sara Zainab[4], Muhammad Zakria[5], Sanam Asif[6]

[1]Associate Professor Fatima Memorial Hospital Lahore,[2]Senior Registrar, University of Lahore Teaching Hospital, [3,4]Senior Registrar, Fatima Memorial Hospital Lahore, [5]Consultant Surgeon, Wapda Medical Complex, Lahore, [6]Senior Registrar, University of Lahore Teaching Hospital.

Correspondence: *Dr. Sadaf Khurshid*
University of Lahore Teaching Hospital.
Email: sadafkhurshid1@gmail.com

Abstract

Objective: To determine the frequency of scar dehiscence in patients presenting with scar tenderness due to the previous one cesarean section.

Methodology: It was a descriptive case series study carried out at Unit III, Obstetrics & Gynecology, Fatima Memorial Hospital Lahore. Total duration was 6 months. 160 females were enrolled. Then females underwent ultrasonography for assessment of scar dehiscence. Ultrasound performed by senior consultant radiologist having 4 years residency experience. If scar open and fetus can be viewed, then scar dehiscence labeled. Females of age 20-40 years, parity <5 with singleton pregnancy presenting at 32-40 weeks of gestation (on LMP) with scar tenderness (as per operational definition) due to previous one cesarean section were included in the study. All the collected data was entered and analyzed on SPSS version 20. Frequency and percentage was calculated for qualitative variables including scar dehiscence. Parity was presented as frequency. Data was stratified for age, gestational age, BMI and parity. Post-stratification, chi-square test was applied to compare scar dehiscence in stratified groups. P-value≤0.05 was considered as significant.

Results: In this study, the mean age of the females was 30.77±5.95 years, mean value of gestational age of the females was 35.47±2.27 weeks. In our study, the scar dehiscence was found in 38(23.75%) females.

Conclusion: According to this study the frequency of scar dehiscence in patients presenting with scar tenderness due to previous one cesarean section is 23.75%

Keywords: Scar Tenderness, Cesarean Section, Uterine Scar Dehiscence

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Introduction

Cesarean section uterine scar dehiscence is a rare but notable complication of Lower segment cesarean section surgery. Underlying defects in the uterus like a cesarean scar are implicated in most circumstances.[1] Every year 1.5 million cesarean section procedures are performed worldwide. As many women decide to get pregnant again, the population of pregnant women with a history of cesarean section is growing rapidly. For these women prediction of cesarean section scar performance is still a serious clinical problem.[2]

In a WHO systematic review of uterine rupture worldwide, the median incidence was 5.3 per 10,000 births. The majority of cesarean uterine incisions are low-transverse and this type of incision has the lowest risk for rupture in subsequent pregnancies. The classical (vertical) scar at the upper part (body) of the uterus is

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more vulnerable to ruptures and can cause more serious complications both for the mother and her baby.[3, 4]

It has been described in an Indian study that the incidence of scar dehiscence was found in 34.2% of the patients in which weak scar was expected based on warning sign like scar tenderness.[3] One study conducted in India, reported that out of 74 cases of scar tenderness, 24 (32.4%) cases had scar dehiscence in females with previous one cesarean section.[(5)] But another study conducted in Dhaka, reported that out of 17 cases of scar tenderness, 3 (17.6%) cases had scar dehiscence in females with previous one cesarean section.[6]

Rationale of this study is to determine the frequency of scar dehiscence in patients presenting with scar tenderness due to previous one cesarean section. Literature has showed that the presentation of females with scar tenderness along with history of previous one cesarean section can be a good sign of scar dehiscence and females can be prevented from hazardous consequences of scar dehiscence or rupture on early basis. But there is no local study found which could help us to understand the extent of problem in local population. So, we want to access the local data. This will help to improve our practice and in future we will be able to implement the early screening and preventive programs based on results of this study to prevent the adverse pregnancy outcomes related to scar dehiscence.

Methodology

It was a descriptive cross sectional study conducted at Unit III, Obstetrics & Gynecology, Fatima Memorial Hospital Lahore over a period of6 months. Sample size of 160 cases were calculated with 6% confidence level, 7.5% margin of error and taking expected percentage of scar dehiscence i.e. 17.6% in females presenting with scar tenderness due to previous one cesarean section [6] Sampling Technique was non-probability consecutive sampling. Scar Tenderness was defined as pain in lower abdomen at site of previous cesarean scar and complaint of soreness in uterus.

Scar Dehiscence was labeled if there were window in the lower segment with either membranes bulging or parts of the baby visualized through it after previous one cesarean section. It was assessed on ultrasonography examination.

Females of age 20-40 years, parity <5 with singleton pregnancy presenting at 32-40 weeks of gestation (on LMP) with scar tenderness (as per operational definition) due to previous one cesarean section were included in the study. Exclusion criteria was *a)* patients with PROM or PPROM (diagnosed on per speculum examination). b) Patients with hypertensive pregnancy (BP≥140/90mmHg with or without proteinuria +1 on dipstick) gestational diabetes (BSR>186mgdl). c) Abnormal placental implantation (placenta accrete, Previa, increta) or abruption (on USG)

Hundred pregnant females fulfilling the inclusion criteria were included through Labour room of Department of Obstetrics & Gynecology, Fatima Memorial Hospital, Lahore. Informed consent was obtained for using their data for research purposes. Demographic data (name, age, gestational age, parity, BMI was recorded. Then females undergo ultrasonography for assessment of scar dehiscence. Ultrasound was performed by senior consultant radiologist having 4 years residency experience. If scar was open and fetus can be viewed, then scar dehiscence was labeled (as per operational definition). All this data was recorded in a specially designed Proforma (attached).

The data was entered and analyzed through SPSS version 20. Mean and the standard deviation was calculated for quantitative variables including age, gestational age, BMI.

Results

A total of 160 females were enrolled in the study as per inclusion criteria. The mean age (years) of the females was 30.77±5.95 with minimum and maximum ages from 20 to 40 years respectively whereas there were 50 (31.25%) females had primary parity, 72(45%) females had parity 2 and 38(23.75%) females had parity 3. In our study the mean gestational age of the females was 35.47±2.27 weeks with minimum and maximum values of gestational age 32 & 39 weeks respectively. According to our study findings, mean body mass index (BMI) of the females was 27.21±5.096 kg/m^2 with minimum and maximum values of 18.50 to 35.90 kg/m^2 respectively. In this study the scar dehiscence was found in 38(23.75%) females, as shown in Table I

Table II showed the analysis of comparison of scare dehiscence with variable. The study results showed that the females with age ≤ 30 years were 72 in which scar dehiscence was found in 17 females, similarly the females with age >30 years were 88 in which scare dehiscence was found in 21 females. Statistically insignificant difference found between the scare

dehiscence of females with age (p-value 0.970). The study results showed that the females had primary parity were 50 in which scar dehiscence was found in 13 females, similarly, the females had secondary parity were 110 in which scare dehiscence was found in 25 females. Statistically insignificant difference (p-value 0.652) found between the scare dehiscence of females with parity. The study results showed that the females with gestational age ≤35 weeks were 84 in which scar dehiscence was found in 18 females, similarly the females with gestational age >76 weeks were 76 in which scare dehiscence was found in 20 females. Statistically insignificant difference (p-value 0.468) found between the scare dehiscence of females with gestational age (weeks). The study results showed that the females with normal body mass index (BMI) were 60 kg/m^2 in which scar dehiscence was found in 16 females, similarly the females with abnormal body mass index (BMI) were 100 in which scare dehiscence was found in 22 females. Statistically insignificant difference (p-value 0.502) found between the scare dehiscence of females with BMI.

Table I: Descriptive statistics of variables

		Mean±SD
age (years)		30.77±5.95
body mass index (kg/m^2)		27.21±5.09
		n (%)
parity	one	50 (31.25)
	two	72 (45.00)
	three	38 (23.75)
scar dehiscence	yes	38 (23.75)
	no	122 (76.25)

Table II: Comparison of scar dehiscence with variables

		scar dehiscence		total	p-value
		yes	No		
age (years)	≤ 30	17	55	72	0.970
	> 30	21	67	88	
	total	38	122	160	
parity	primary	13	37	50	0.652
	multiple	25	85	110	
	total	38	122	160	
gestational age (weeks)	≤ 35	18	66	84	0.468
	> 35	20	56	76	
	total	38	122	160	
BMI	normal	16	44	60	0.502
	abnormal	22	78	100	
	total	32	122	160	

Discussion

Cesarean section scar dehiscence is a rare but notable complication of Lower segment cesarean section surgery. Uterine dehiscence is defined as the disruption of the uterine muscle with intact uterine serosa. Underlying defects in the uterus like a cesarean scar are implicated in most circumstances. The indications for primary caesarean section has a considerable impact on outcome of trial of scar.[7, 8]

In this study, the frequency of scar dehiscence in patients presenting with scar tenderness due to previous one cesarean section was 23.75%. Some of the studies are discussed below showing their results.

The incidence of cesarean section scar defect reportedly ranges between 6.6 % to 69 % with variations mainly due to the absence of criteria for the uterine scar dehiscence. Meta-analysis reports have shown the incidence of cesarean scar dehiscence to be around 1.9 %.[9-12] Other studies have reported rates of uterine scar dehiscence between 0.6% and 3.8%.[13,14] Incidence of Uterine scar dehiscence irrespective of cause is around 0.6 % worldwide.[15]

A study by Bushra Khan et al[16] documented that failed progress of labour (39.8%) was the commonest indication for emergency lower segment caesarean section after a failed trial of labour. While scar dehiscence and scar tenderness accounted for (33.18%) patients.

It has been described in an Indian study that the incidence of scar dehiscence was found in 34.2% of the patients in which weak scar was expected on the basis of warning sign like scar tenderness.[3]

One study conducted in India, reported that out of 74 cases of scar tenderness, 24 (32.4%) cases had scar dehiscence in females with previous one cesarean section.[5]

A meta-analysis of observational and comparative studies examining maternal and fetal morbidity and mortality following trial of labour compared with women undergoing repeat caesarian section, showed the combined scar dehiscence and rupture rates for lower segment scars were 1.8% for all trials of labour, 1.9% for women undergoing repeat cesarean section without negligible labour (almost difference)and 3.3% for women who underwent emergency cesarean section during a trial of labour.[17]

Maimona Ashraf et al[18] demonstrated that the frequency of patients with previous one cesarean section who develop scar tenderness during trial of labour reveals 19(7.6%), frequency of scar dehiscence in patients with previous one cesarean section who develop scar tenderness during trial of labour was recorded in 2(10.53%).

One study by Kausar showed that 3 of 7 cases (42.8%) of scar dehiscence were associated with preoperative scar tenderness.[19)]

But another study conducted in Dhaka, reported that out of 17 cases of scar tenderness, 3 (17.6%) cases had scar dehiscence in females with previous one cesarean section.[6]

Ofili-Yebovi et al found uterine scars in 99.1% of patients who had undergone cesarean section surgery, but 19.4% had a defect in their scars; 9.9% of the uterine scar dehiscence were severe, defined as the loss of >50% of myometrial mantle at the scar level.[20]

Conclusion

According to this study the frequency of scar dehiscence in patients presenting with scar tenderness due to previous one cesarean section is 23.75%.

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