https://doi.org/10.33279/jkcd.v13i3.179

FREQUENCY OF SCAR DEHISCENCE IN PATIENTS WITH PREVIOUS ONE CAESAREAN SECTION HAVING SCAR TENDERNESS

Hina[1], Laila Zeb[1]

[1]Department of Gynae B Unit, Lady reading Hospital (LRH), Peshawar

ABSTRACT

Objectives: *To determine the frequency of uterine scar dehiscence in patients with previous one cesarean section having scar tenderness.*

Materials and Methods: *This Descriptive Cross Sectional Study was conducted in the Department of Obstetrics and Gynecology, Lady Reading Hospital, Peshawar from 28th Jan 2021 to 28th July 2021. Total 222 pregnant women with singleton pregnancy more than 28 weeks of gestation and history of previous one lower segment Caesarean Section presenting with scar tenderness were included in the study while patients having previous classical caesarean section, multiple pregnancies, not fit for VBAC and without scar tenderness were excluded .Study was started after taking approval from IREB. Sampling was done in consecutive manner and followed to determine the occurrence of scar dehiscence.*

Results: *The mean age of the participants was 27.1 $\pm$ 5.3 years and mean BMI was 25.2 $\pm$ 2.5kg/m^2. The mean gestational age was 38.7 $\pm$1.9 weeks. Among the participants 43.7% had parity of 1-4 and 56.3% had more than > 5. Maternal tachycardia was present in 32% and on follow up, scar dehiscence was recorded in 14.9%.*

Conclusion: *Scar dehiscence after previous CS is relatively common in women presenting at term pregnancy with scar tenderness. Further studies are recommended on relationship between CS, common factors which can lead to scar dehiscence and its outcome mother and new born.*

Key words: *Cesarean section, body mass index, scar dehiscence, tenderness*

INTRODUCTION

Cesarean Section is a common operative procedure in obstetric practice all over the world to ensure healthy outcome of the pregnancy for the mother and newborn. With the advent of modern anesthesia, antibiotics and availability of blood transfusions, the indications of this operation are being continually extended. Also with the implementation of modern technology in labor and neonatology units, the incidence of Cesarean Section has further increased to decrease feto-maternal morbidities and mortalities[1]. Internationally cesarean section rates vary from 10-30 percent[2]. Repeat cesarean section is the most common avoidable cause of rising CS rate[3]. About 10% of obstetric population has history of prior cesarean delivery globally[4]. Vaginal birth after CS is one of the target foci to reduce the raising CS rate. However vaginal birth after CS has probability of scar dehiscence and rupture, which is associated with feto-maternal morbidity and sometime mortality[2]. The incidence of cesarean scar complications ranges between 0.2% and 4.3% of all pregnancies with previous cesarean[4]. Baron J et al in their study done in 2014 predicted incidence of scar dehiscence between 0.2% and 4.3%[5]. It has been seen that scar dehiscence is asymptomatic in 48% of women and if not taken for LSCS then it may end up in uterine rupture.

Various attempts have been made to anticipate scar dehiscence. These include use of obstetric risk assessment before trial of labour, use of continuous electronic fetal heart rate monitoring and use of

Correspondence:
Dr. Laila Zeb
Assistant Professor
Lady reading hospital Peshawar
Email: drlailazeb@gmail.com

intrauterine pressure monitoring during labour[6]. Another approach is the use of ultrasound assessment of uterine scar in the antenatal period. Abnormal cardiotocograph is the most consistent finding of impending scar rupture, present in 80% of women with scar rupture[1]. Clinical features of scar rupture are maternal tachycardia, severe abdominal pain present even in between uterine contractions, scar tenderness and abnormal vaginal bleeding. Late sign include cessation of uterine activity, hematuria, recession of presenting part and maternal shock[7].

Scar tenderness is an easily elicitable sign which appears early and in low resource settings where continuous electronic fetal heart rate monitoring is not available, is more useful in predicting scar dehiscence. A study conducted by M Misra et al concluded that timely done caesarean section in woman with scar tenderness will definitely bring down the neonatal and maternal morbidity and mortality thereby, decreasing the number of emergency Caesarean section (for scar rupture)/ obstetric hysterectomy (for traumatic intrapartum hemorrhage)/ asphyxiated neonate delivered by difficult vaginal delivery[8]. However, there is no local data on the incidence of scar dehiscence in our local population of pregnant ladies having previous one caesarean section having scar tenderness.

To determine the frequency of uterine scar dehiscence in patients with previous one cesarean section having scar tenderness.

MATERIALS AND METHODS

This Descriptive Cross Sectional Study was conducted in department of Obstetrics and Gynecology, Lady Reading Hospital, Peshawar from 28th Jan 2021 to 28th July 2021 after taking approval from hospital ethical committee(Ref:02/LRH/MTI). By using WHO formula with 95% confidence level, 5% relative precision and 17.5% frequency of scar tenderness, the total sample size was 222 by using consecutive non-probability sampling technique. All pregnant patients with gestation age more than 28 weeks with past history of one lower segment cesarean section having singleton pregnancy with cephalic presentation who presented with spontaneous labour and have scar tenderness were included in the study while pregnant patients with less than 28weeks pregnancy primigravidas or multigravida with two or more lower segment cesarean section, previous one caesarean for absolute indications, classical caesarean section, multiple pregnancy and medical disorders were excluded from the study. Contraindications to vaginal delivery were ruled out by abdominal and vaginal examination. The patients meeting the inclusion criteria were recruited in the study after taking written informed consent. The purpose of the study and the benefits and risks were explained to all the recruited patients. Cesarean scar tenderness was elicited by clinical examination. Scar dehiscence was checked intra-operatively.

All patients with scar tenderness and dehiscence were managed according to the standard of care. After admission detailed history was taken and general physical, systemic and local examination was done. Biochemical workup was carried out for each patient including complete blood count, serum electrolytes, RFTs, LFTs and obstetrical ultrasound. Scar tenderness and dehiscence was checked by consultant obstetrician. All patients with scar tenderness had category 1 cesarean section by R4 residents, scar tenderness was noted intra-operatively and uterus was stitched in 2 layers. Post-operatively patients were given IV antibiotics, IV fluids, analgesics and infusion Syntocinon. Standard Post Operative care was given and patients were discharged after optimization of hemoglobin and mobilization.

Data was analyzed using SPSS Version 23.0. Mean and standard deviation was calculated for quantitative variables like age, height, weight, BMI, parity and period of gestation. Frequencies and percentages were calculated for uterine scar dehiscence. Scar dehiscence was stratified with age and other explanatory variables like parity, maternal tachycardia and period of gestation to see the effect modification. Post stratification chi square test was applied keeping P value < 0.05 as significant. All the results were presented in the form of tables and charts.

RESULT

The study was conducted on 222 women with previous CS and presenting with scar tenderness. The mean age of the participants was 27.1 + 5.3 years.

The mean gestational age was 38.7 +1.9 weeks, 43.7% had parity of 1-4 and 56.3% had more than > 5 (table 4). On examination, maternal tachycardia was present in 32% and on follow up, scar dehiscence

was recorded in 14.9%

We stratified the scar dehiscence with regards to age groups, gestational age, parity and maternal tachycardia. In patients with age between 17-25 years, scar dehiscence was noted in 16 (18%) cases and age between 25-35 years, scar dehiscence was noted in 17 (12.8%) cases, but p value was not significant. In patients with gestational age less than 37 weeks i.e preterm, scar dehiscence was noted in 5 (16.7%) cases and patients with gestational age more than 37 weeks i.e term, scar dehiscence was noted in 28 (14.6%) cases with non-significant p value. In Multigravida patients i.e parity 1-4, scar dehiscence was noted in 13 (13.4%) cases and grand multigravida patients with parity more than 5, scar dehiscence was noted in 20 (16%) cases but p value was not significant. In patients having tachycardia 11 (15.5%) cases had scar dehiscence and 60 (84.5%) cases of maternal tachycardia had no scar dehiscence with non-significant p value.

Table 1: Scar dehiscence in age groups

		Scar dehiscence		P value
		Yes	No	
Age categories	17-25 years	16 (18.0%)	73 (82.0%)	0.388
	> 25-35 years	17 (12.8%)	116 (87.2%)	
Total		33 (14.9%)	189 (85.1%)	

Table 2: Scar dehiscence in relation with gestational age

		Scar dehiscence		P value
		Yes	No	
Gestational age	Preterm	5 (16.7%)	25 (83.3%)	0.765
	Term	28 (14,6%)	164(85.4%)	
Total		33(14.9%)	189(85.1%)	

Table 3: Scar dehiscence in relation with parity

		Scar dehiscence		P value
		Yes	No	
Parity	1-4	13 (13.4%)	84 (86.6%)	0.579
	> 5	20(16.0%)	105 (84.0%)	
Total		33(14,9%)	189 (85.1%)	

Table 4: Scar dehiscence in relation with maternal tachycardia

		Scar dehiscence		P value
		Yes	No	
Maternal tachycardia	Yes	11(15.5%)	60 (84.5%)	0.857
	No	22(14.6%)	129 (85.4%)	
Total		33 (14.9%)	189 (85.1%)	

DISCUSSION

Total 222 women included in this study with singleton pregnancies and previous one cesarean section having scar tenderness were stratified according to age, parity, gestational age and maternal tachycardia. Scar Dehiscence was observed in 16(18%) of women in 17-25 years age group and 17(12.8%) of women in 25-35 years age group. About 5 (16.7%) women with scar dehiscence were preterm i.e less than 37 weeks POG and 28 (14.6%) were term i.e more than 37 weeks POG. Similarly with regard to parity, scar dehiscence noted was in 13(13.4%) in parity 1-4 group and 20(16%) had parity >5.Also in 11(15.5%) cases of maternal tachycardia, scar tenderness was noted whereas 60(84.5%) cases of maternal tachycardia had no scar dehiscence. Overall frequency of scar dehiscence was 14.9%.

A study conducted by Gupta N et al.[9], 14% patients had scar tenderness, out of these 120 cases having cesarean scar tenderness, intra operative scar was intact in 69 cases (57.7%); scar was thinned out in 27 cases (22.5%); scar dehiscence was found in 21 cases (17.5%) and rupture was found in 3 cases (2.5%). Uterine rupture occurs in between 0.07 to 0.1% of all term pregnancies. It may be correlated with previous uterine scar dehiscence, excessive stimulation with oxytocin, spontaneous labor, cephalo-pelvic disproportion or transverse position and grand multiparity. In our study frequency of scar dehiscence was more in grand multigravidas. The findings of our study regarding frequency of scar tenderness during trial of labour and frequency of scar dehiscence among scar tenderness are consistent with a study showing that 14.9% cases of scar dehiscence were associated with preoperative scar tenderness as reported in previous study by Baron J et al[10] in 2014, the incidence of scar dehiscence was predicted between 0.2% and 4.3%.

In the study by Tyagi N et al.[11] scar tenderness was present in all the women who had intra- operative scar dehiscence. This proved that scar tenderness was a very strong predictor of scar dehiscence and should be taken seriously. In this study scar dehiscence was found in 14.9%. This implied that lesser is the scar thickness detected on ultrasound before

cesarean, more is the risk of scar dehiscence in the patients. At Sir Salimullah Medical College and Mirrors Hospital, a rising trend of LSCS rates were noted from 12.3% in 1984 to 28.15% in 1992[12]. Puri et al. reported scar tenderness in 12 women (out of 205) and among these, four had intra-operative scar dehiscence[13].

Rubina et al. in a study conducted on 120 women found three cases of scar tenderness of which one had a ruptured uterus at cesarean[14]. A retrospective study of 99 women reported scar tenderness in one woman while one case of scar dehiscence did not have scar tenderness[15]. Studies using a trans-abdominal approach reported greater cut- off values of scar thickness than those using a trans-vaginal approach for the prediction of uterine scar dehiscence[16].

In a study conducted by Gotoh et al[17] it was found that there might be incomplete uterine rupture at delivery when lower uterine scar thickness at trans-vaginal ultrasonography was less than 2mm within 1week of delivery, with positive predictive value of 73.9% and negative predictive value of 100%.

Vaginal birth after cesarean section should be encouraged with strict feto-maternal monitoring during labour in health care centres. In current study frequency of scar tenderness was very high and relation with scar dehiscence was not significant, so we should continue trial of labour in isolated scar tenderness in patients undergoing trail of vaginal birth after previous one cesarean section.

CONCLUSION

Scar dehiscence after previous CS is relatively common in women presenting at term pregnancy with scar tenderness, however non-significant. Further studies are recommended on the subject.

REFERENCES

1. Tyagi N, Prabhakar M, Tyagi S. Retrospective study to find predictive factors of scar dehiscence in previous caesarean section to prevent maternal and perinatal morbidity and mortality. Int J Reprod Contracept Obstet Gynecol. 2019;8(2):531-535.
2. Khalil S, Shaheen N, Iftikhar PM. Clinical significance of uterine scar tenderness in predicting strength of scar in patients with lower segment cesarean section. Rawal Medical J. 2013;38(4):401-03.
3. Manzoor T, Ambreen A, Anwar K, Ayub R, Mushtaq R. Normal vaginal delivery after one lower segment caesarean section can be safe option for many women but not right choice for all. Ann King Edward Med Univ. 2011; 17:55-60.
4. Gaikwad HS, Agarwal P, Bannergee A, Cutgutia I, Bajaj. Is scar tenderness is reliable sign of scar complications in labor? Int J Reprod Contraceptive Obstet Gynecology. 2012; 1:33-6[Leeds]HSCIC;2013.
5. Baron J, Weintraub AY, Eshkoli T, Hershkovitz R, Sheiner E. The consequences of previous uterine scar dehiscence and cesarean delivery on subsequent birth. Int J Gynaecol Obstet. 2014;126(2):120-2.
6. Parant O. Uterine rupture: Prediction, diagnosis and management. J Gynecol Obstet Biol Reprod. 2012; 41:803-16.
7. Puri P, Abraham M, Grover S. Vaginal birth after one previous cesarean section. J K Science. 2011; 13:179-81.
8. Misra M, Tahilramani H. Clinical significance of uterine scar tenderness and third trimester sonographic scar thinning in predicting scar complications. Int J Gynaecol Obstet. 2020;4(1):79-83
9. Gupta N, Sinha R. Intra-Operative uterine scar condition and feto-maternal outcome in patients of previous lower segment caesarean section (LSCS) with scar tenderness. Int J Res Med Sci. 2017;5(11):4911-4914.
10. Baron J, Weintraub AY, Eshkoli T, Hershkovitz R, Sheiner E. The consequences of previous uterine scar dehiscence and cesarean delivery on subsequent birth. Int J Gynaecol Obstet. 2014; 126(2):120-2.
11. Tyagi N, Prabhakar M, Tyagi S. Retrospective study to find predictive factors of scar dehiscence in previous caesarean section to prevent maternal and perinatal morbidity and mortality. Int J Reprod Contracept Obstet Gynecol. 2019; 8(2):531-535.
12. Choudhury SB. Begum A. Indication and complication of cesarean section; a study of 1083 cases. Bangladesh J Obstet Gynaecol. 1994; 9:1-7.
13. Puri P, Abraham M, Grover S. Vaginal Birth after one previous cesarean section. JK Science. 2011; 13:179-81
14. Bashir R, Khattak K. Vaginal delivery after cesarean section. J Ayub Med Coll. 2000; 12:34-5
15. Lai S, Sidek S. Delivery after a lower segment cesarean section. Singapore Med J. 1993; 34:62-6.
16. Jastrow N, Chailler N, Roberge S, Morency AM, Lacassey, Bujold E. Sonographic lower uterine segment thickness and risk of uterine scar defect: a systemic review. J Obstet Gynaecol. 2010; 32:321-327
17. Gotoh H, Masuzaki H, Yoshida A, Yoshimura S, Miyamura T, Ishimura T. Predicting incomplete uterine rupture with vaginal sonography during the late second trimester in women with prior cesarean. Obstet Gynaecol. 2000; 95:596- 600.