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ASSOCIATION OF SCAR TENDERNESS WITH SCAR INTEGRITY AT REPEAT CAESAREAN SECTION IN A TERTIARY CARE CENTRE: AN OBSERVATIONAL STUDY

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ABSTRACT **BACKGROUND:** Caesarean section is an operative process whereby the fetuses after the end of 28 th week are delivered through an incision on the abdominal and uterine wall .This excludes delivery through an abdominal incision where the fetus lying free in the abdominal cavity following uterine rupture or in secondary abdominal pregnancy .The first operation carried out on a patient is referred to as primary caesarean section .When the operation is carried out in subsequent pregnancies , it is referred to as repeat caesarean section .Caesarean section is used in cases where vaginal delivery is not either feasible or would impose undue risk on mother or baby . **AIMS&OBJECTIVE:** of the study to assess the relationship of scat tenderness with scar integrity at repeat caesarean section. **METHODS:** It is a retrospective study, conducted in the admitted patients of Department of Obstetrics and Gynecology, Bundelkhand Medical College, Sagar Madhya Pradesh. The duration of the study from July 2022 to December 2022.**RESULTS:** During the study period total 130 women were admitted with diagnosis of previous caesarean section with scar tenderness, out of these 88 (66%) had gestational age <37 weeks and on repeat caesarean section scar thinning present in 75(58%) cases. **CONCLUSION:** The scar complications are highly associated with the intensity of scar tenderness .Hence forth, it can be concluded here that scat tenderness is a vital factor responsible for scar complications.

KEYWORDS : Caesarean section, scat thickness, uterine rupture,

INTRODUCTION:

Caesarean section is an operative procedure whereby the fetuses after the end of 28 th week are delivered through an incision on the abdominal and uterine wall. The first operation is performed on a patient referred as a primary cesarean section. When the operation is performed in subsequent pregnancies, it is called repeat caesarean section1.Caesarean section is used in cases where vaginal delivery is not either feasible or would impose undue risk to mother or baby .2The maternal mortality rate associated with caesarean section varies in different series from 4-8 per 10000live births.3 In general the risk of death following caesarean delivery as at least twice the risk following caesarean delivery. This rising caesarean section rate has created and expanding high risk obstetric sub population "women with scarred uterus .4.Edwin B.Cragin introduced the concept of once a caesarean always a caesarean,, in 1916.This concept met a lot of criticism both in the west and east and most of the obstetrician now favor a trial of scar policy in well equipped hospital foe women who have undergone a caesarean section for non recurrent cause.[5]

Uterine scar dehiscence may presents as an acute event in the antenatal or intrapartum period, leading to significant fetal and maternal morbidity .The frequency of uterine rupture is estimated at .2-3.8 % and uterine dehiscence is between .6 to 3.8%.6 The risk of uterine rupture in the presence of a defective scar is related to the degree of thinning of the segment.7 Due to a rise in the rated of primary caesarean section globally ,repeat caesarean section has also very common .Indeed the chances of repeat caesarean section are quoted at 90% after a primary caesarean section according to the data from the united states.8 In order to bring down these high rates trial of labour after caesarean section (TOLAC) or vaginal birth after caesarean (VBAC) has emerged as an important tool .The chief concern during labor with scarred uterus is that of scar rupture which can have devastating fetal and maternal consequences (6 % and 10% respectively).9-10 Monitoring for the feature of scar rupture is thus one of the prerequisites of VBAC .These includes abnormal CTG (cardiotocography),severe abdominal pain persisting between contractions, acute onset of scar tenderness, hematuria or abnormal vaginal bleeding, maternal tachycardia or shock, cessation of uterine cavity and loss of station of the presenting part.11 Out of these abnormal CTG is the most consistent finding and present in almost 80% of scar rupture.12Repeat elective section avoids scat dehiscence /rupture remarkably but at cost of increase bleeding, thromboembolism prolonged recovery and increase risk of placenta previa and accreta in subsequent pregnancies. It is therefore very crucial to sort out the impact of primary scar on repeat caesarean section. This study is an effort towards evaluating the complain of scar pain as a factor for understanding repeat caesarean section.

METHODS:

This is an observational study .The study was carried out in the admitted patients in the Department of obstetrics and gynecology Bundelkhand Medical college Sagar Madhya Pradesh .The duration of the study was from July 2022 to December 2022.All the women having previous section with scar tenderness in the third trimester of pregnancy admitted in the department of obstetrics and gynecology, were included in the study. The data for the study (sociodemographic,obstetric information, physical examination and per operative findings) was collected from admission register and inpatient files. Data were analyzed using Microsoft office Excel2013.The results were computed in the form of percentages.

RESULTS-

During the study period total 130 women were admitted in the department. Out of 130 patients the highest 60 (46%) patients belonged to 21-25 years age group. Subsequently 39 (30%), 23 (18%), 5 (4%) and 3 (2%) belonged to 26-30 years, <20 years, 31-35 years and >35 years respectively. (Table 1)

Table 1.Distibution of mothers according to age

Age	Number	Percentages
<20	23	18%
21-25	60	46%
25-30	39	30%
31-35	5	4%
>35	3	2%

Total 99(76%) and 31 (24%) mothers had gravid 2-3 and 4+ respectively. Parity showed that 67 (52%), 39 (30%), 24 (18%) had 0-1, 2-3 and 4+ parity respectively. Contraceptive history before index pregnancy showed 44 (34%) adopted no contraception, whereas 34 (26%), 31 (24%) and 16 (12%) adapted oral pills, condom /barrier and injectable contraceptive respectively. (Table 2)

Table 2: Obstetric profile of mothers

Obstetric profile	Number	Percentages
Gravida		
2-3	99	76
4+	31	24
parity		
0-1	67	52
2-3	39	30
4+	24	18

Interval between CS (years)		
1-2	31	24
3-5	60	46
>5	39	30
Contraception history before index pregnancy		
nil	44	34
Oral pills	34	26
Injectables	16	12
Condom/barriers	31	24
others	5	4

Out of 130 mothers, 33 (25%), had operated for fetal distress. (Indication of first caesarean section). 23 (18%) for malpresentation, 21 (16%) for oligohydraminos, and 14(11%) for hypertensive disorder of pregnancy. (Table 3)

Table 3: Indication of previous caesarean section

Indication	Number	Percentages
Fetal distress	33	25
Malpresentation	23	18
Oligohydraminos	21	16
Hypertensive disorder of pregnancy	14	11
Prolonged labour	16	12
PROM	8	4
CPD	10	6
BOH	5	8

Out of 130 mothers 86 (66%) cases were emergency LSCS and 44 (34%) cases were performed as elective caesarean section. (Figure 1)

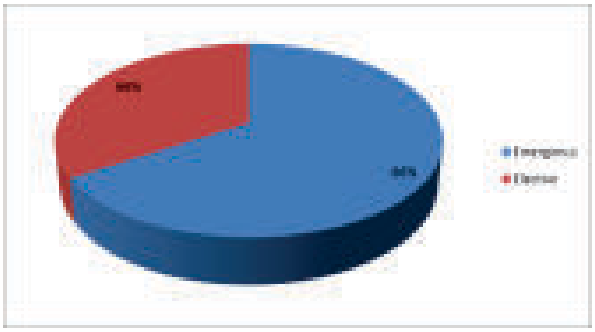

Figure 1-Emergency and Elective caesarean section percentages

Among 130 mothers 86 (66%) and 36 (28%) mothers presented at <37% weeks and 37-40 weeks respectively. Rest 8 (6%) presented in > 40 weeks of pregnancy. (Table 4)

Table 4 Distribution of patients according to gestational age

Gestation age (in weeks)	Number	percentages
<37	86	66
37-40	36	28
>40	8	6

Intra-operative adhesions had found around 47(36%) of cases. Out of 130 in 122 (94%) cases previous scar was observed in lower segment whereas rest 8 (6%) were found in other areas. The previous scar was found thin in 75 (58%) of patients, and 55 (42%) of patients scar integrity was maintained. (Table 5)

Table 5 per operative finding

Finding	Number	percentages
1.per operative adhesion		
Present	47	36
absent	83	64
2.level of scar		
Lower segment	122	94
others	8	6
3.thickness of scar		
Thin	75	58
Normal	55	42

DISCUSSION -

The study was carried out to ascertain the significance of scar tenderness as a subjective sign of disruption of scar integrity in repeat caesarean section. Its importance arises from being a relatively easily elicitable sign in women who may not have access to continuous CTG monitoring. It also appears early as compared to other features of scar rupture such as maternal shock, loss of station of the presenting part or hematuria.

The maximum participants of our study were between 21-25 years age group, that is 60 (46%), and majority had Gestational age <37 weeks (66%).These finding are comparable to the finding by Swada et al13who performed the study in the third trimester as well, while it differ from the finding of Qureshi et al 14who started assessing lower segment as early as 16 weeks of gestation. Many studies in literature assessed the lower uterine segment even before conception.15 Rosser et al16 found that myometrial thickness at the level of isthmus uteri decreases as the number of caesarean section increases. We have got thin scar in case of 75 (58%) cases, whereas55 (42%) were evident as normal scar.

Many studies have been done to assess the scar thickness by ultrasound. The lower segment scar is visible in only 30% of the patients. Study have suggested that there is an inverse relationship between scar thickness, assessed sonography and risk of rupture uterus.17-18 The risk associated includes induced labour ,reduced inter pregnancy interval, number of previous caesarean section ,type of closure of uterus maternal age ,gestational age at delivery and fetal birth weight .Rageth et al19disclosed an elevated risk of uterine rupture in patients who had a history of caesarean section and were undergo trial of labour versus repeat elective section. The overall risk of uterine rupture for women undergoing trial of labour after caesarean section has been reported between .2% and .1%.Naef et al 20 retrospectively received the delivery outcome of 262 women with lower vertical uterine incision over a 10 year periods,54%experienced trial of labour with 83% having a successful vaginal rate. The uterine rupture rate was 1.1% in the trial of labour group versus nil in the elective repeat caesarean section group. In some study no serious sequel were observed following uterine rupture .21 In present study showed that scar integrity significantly associated with 2nd and 3rd gravida, primi-para and interval between caesarean section 1-2 years. Scar complication rates were not affected by onset of labour, indication for previous section, interconceptional period, gestation at delivery and birth weight. Similar finding have been reported in the study by Davey et al21 .In an extensive review of literature, no study has been conducted on the predictive accuracy of scar tenderness, although there are multiple studied on trial of labour after caesarean section.22-24 The highlights of this study is that it focus only on caesarean section done for scar tenderness.

CONCLUSION:

Actually the scar complications are highly associated with the intensity of scar tenderness. Henceforth, it can be concluded here that scar tenderness is a vital factor responsible for scar complications. The result of this study showed that scar tenderness was a sensitive sign of scar complication in patient undergoing repeat caesarean section, but scar tenderness alone should not be considered as a factor for disrupting scar integrity. For increasing VBAC and decreasing repeat caesarean section rate protocol have to make to monitor after a primary caesarean section.

RECOMMENDATIONS:

A multicenter double blinded studies to be done in the whole Bundelkhand region, which can reveal the real picture. The study period should be long .Multi-disciplinary approach of research work can make a study more precise and authentic in this regards.

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REFERENCES:

1. Dutta DC. Text book of obstetrics, hypertensive disorders in pregnancy. India: New central book agency; 2004:6(1);222-7.
2. Ofili-Yebovi D, Ben-Nagi J, Sawyer E, Yazbek J, Lee C, Gonzalez J, Jurkovic D. Deficient lower-segment Cesarean section scars: prevalence and risk factors. Ultrasound Obstet Gynecol. 2008;31(1):72-7.
3. Mozurkewich EL, Hutton EK. Elective repeat cesarean delivery versus trial of labor: a meta-analysis of the literature from 1989 to 1999. Am J Obstet Gynecol.

2000;183(5):1187-97.
4. Durnwald CP, Mercer BM. Vaginal birth after Cesarean delivery: predicting success, risks of failure. J Maternal-Fetal Neonat Med. 2004;15(6): 388-93.
5. David M, Gross MM, Wiemer A, Pachaly J, Vetter K. Prior cesarean section-An acceptable risk for vaginal delivery at free-standing midwife-led birth centers? Results of the analysis of vaginal birth after cesarean section (VBAC) in German birth centers. Eur J Obstet Gynecol Reprod Biol. 2009;142(2):106-10.
6. Gaikwad HS, Aggarwal P, Bannerjee A, Gutgutia I, Bajaj B. Is scar tenderness a reliable sign of scar complications in labor?. Int J Reprod Contracept Obstet Gynecol. 2007;1(1):33-7.
7. Vikhareva OO, Valentin L. Risk factors for incomplete healing of the uterine incision after caesarean section. BJOG. 2010;117(9):1119-26.
8. Ventura SJ, Hamilton BE, Mathews TJ. Pregnancy and childbirth among females aged 10-19 years–United States, 2007-2010. MMWR. 2013;62(3):71-6.
9. Grivell RM, Barreto MP, Dodd JM. The influence of intrapartum factors on risk of uterine rupture and successful vaginal birth after cesarean delivery. Clin Perinatol. 2011;38(2):265-75.
10. Gaikwad HS, Aggarwal P, Bannerjee A, Gutgutia I, Bajaj B. Is scar tenderness a reliable sign of scar complications in labor?. Int J Reprod Contracept Obstet Gynecol. 2012;1(1):33-7.
11. Gutgutia I, Bajaj B. Is scar tenderness a reliable sign of scar complications in labor?. Int J Reprod Contracept Obstet Gynecol. 2010;5(1):23-7.
12. American College of Obstetricians and Gynecologists. Vaginal birth after previous cesarean delivery. ACOG Prac Bull. 1995;1:1-8.
13. Sawada M, Matsuzaki S, Nakae R, Iwamiya T, Kakigano A, Kumasawa K, Ueda Y, Endo M, Kimura T. Treatment and repair of uterine scar dehiscence during cesarean section. Clin Case Rep. 2017;5(2): 145-9.
14. Sen S, Malik S, Salhan S. Ultrasonographic evaluation of lower uterine segment thickness in patients of previous cesarean section. Int J Gynecol Obstet. 2004; 87(3):215-9.
15. Tazion S, Hafeez M, Manzoor R, Rana T. Ultrasound Predictability of Lower Uterine Segment Cesarean Section Scar Thickness. J Coll Physicians Surg Pak. 2018;28(5):361-4.
16. Cheung VY. Sonographic measurement of the lower uterine segment thickness in women with previous caesarean section. J Obstet Gynaecol Canada. 2005; 27(7):674-81.
17. Jastrow N, Chaillet N, Roberge S, Morency AM, Lacasse Y, Bujold E. Sonographic lower uterine segment thickness and risk of uterine scar defect: a systematic review. J Obstet Gynaecol Canada. 2010; 32(4):321-7.
18. Mohammed AB, Al-Moghazi DA, Hamdy MT, Mohammed EM. Ultrasonographic evaluation of lower uterine segment thickness in pregnant women with previous cesarean section. Middle East Fertil Soc J. 2010;15(3):188-93.
19. Rageth JC, Juzi C, Grossenbacher H. Delivery after previous cesarean: a risk evaluation. Obstet Gynecol. 1999;93(3):332-7.
20. Naef III RW, Ray MA, Chauhan SP, Roach H, Blake PG, Martin JN. Trial of labor after cesarean delivery with a lower-segment, vertical uterine incision: is it safe?. Am J Obstet Gynecol. 1995;172(6):1666-74.
21. Davey MR, Moodley J, Hofmeyr GJ. Labour after caesarean section--the problem of scar dehiscence. South Af Med J. 1987;71(12):766-8.
22. Al-Zirqi I, Stray-Pedersen B, Forsén L, Daltveit AK, Vangen S, NUR group. Validation study of uterine rupture registration in the Medical Birth Registry of Norway. Acta Obstet Gynecol Scand. 2013;92(9): 1086-93.
23. Thisted DL, Mortensen LH, Hvidman L, Rasmussen SC, Larsen T, Krebs L. Use of ICD-10 codes to monitor uterine rupture: validation of a national birth registry. European J Obstet Gynecol Reprod Biol. 2014;173:23-8.
24. Macones GA, Cahill AG, Stamilio DM, Odibo A, Peipert J, Stevens EJ. Can uterine rupture in patients attempting vaginal birth after cesarean delivery be predicted? Am J Obstet Gynecol. 2006;195(4):1148-52.