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FREQUENCY OF VAGINAL BIRTH AFTER 1 C-SECTION

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Abstract:

Objective: *The objective of this study was to determine the frequency of vaginal birth after previous 1 C-section.*

Study Design*: Cross sectional study*

Settings: *Study was conducted in Labour Ward of Department of Obstetrics and Gynaecology, Allied Hospital, Faisalabad during the period from July 2017 to December 2017.*

Methodology: *After taking approval from hospital ethical committee, the patients presenting in labour ward who fulfilled the inclusion criteria were enrolled in the study. The identity of patient was recorded and an informed consent was taken. Exclusion criteria were strictly followed. Patients were admitted in labour ward, thorough history was elicited as per the Performa regarding age, weight, parity, previous obstetric performance including number of vaginal deliveries prior to this pregnancy, indication for previous C-section, any antepartum complication in this pregnancy e.g. major degree placenta Previa. A detailed general, physical, systematic and obstetric examination was done. They were carefully monitored in intrapartum period for any sign of uterine rupture e.g. abnormal fetal heart rate patterns, severe abdominal pain if persisting between contractions, acute onset scar tenderness, abnormal vaginal bleeding, haematuria, maternal tachycardia, hypotension & shock. Progress of labour was monitored. All the information was recorded on proforma by myself and patients undergoing vaginal delivery after cesarean section was noted.*

Results: *In this study, out of 100 cases, 73%(n=73) were between 20-30 years of age whereas 27%(n=27) were between 31-35 years of age, mean + sd was calculated as 28.18±4.86 years, frequency of vaginal delivery after 1 cesarean section was recorded in 66%(n=66).*

Conclusion: *We concluded that the frequency of vaginal delivery after 1 cesarean section is higher, however, complications following this delivery may be recorded in coming trials, which will further helpful while making decision of VBAC.*

Keywords: *Previous 1 cesarean section, vaginal birth, frequency*

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INTRODUCTION:

Caesarean section (CS) is considered as a most frequent obstetrical procedure during the last few years, the rate of this procedure is on increase in all over the world. The same trend is recorded in our country. As this procedure relative safe, but maternal morbidity and mortality is higher when compared to those delivered vaginally [6]. The common issue with repeat CS is the higher risk of blood transfusion, infection, hemorrhage, uterine rupture, abdominal organ injury, need for hysterectomy, placental complications and prolonged hospital stay [1]. Various lab investigations are other tests are done to overcome this issue like reduce the rate of primary cesarean section, offering trial of vaginal delivery after previous cesarean section in suitable females [6].

The trial of labour in cases with previous cesarean section is of most importance to reduce the rate of morbidities and cost of repeat cesarean sction [4]. Though, it is a safe procedure, however free of risk it should not be done casually. Proper selection of cases prior to attempting of Vaginal Birth After Cesarean Section(VBAC) is necessar [6]. Variant results are recorded on the rate of success of VBAC after 1 CS e.g. 59.5% [6], whereas another study found in 83.47% [8]. The aim of my study is to give a trial of labour to those women who are fulfilling the inclusion criteria to evaluate exact frequency of successful VBAC and if this is high than giving them maximum chance of subsequent vaginal deliveries and thus reducing repeat C-sections and their associated morbidities.

METHODOLOGY:

This was a cross sectional study, conducted in Labour Ward of Department of Obstetrics and Gynecology, Allied Hospital, Faisalabad during the period from July 2017 to December 2017, the sample size was 100 cases by calculating on WHO sample size calculator and taking absolute precision as 10%, P=59.5% [6], confidence level 95%. We selected all those females with previous one lower segment caesarean section (both emergency and elective), BMI < 30, age 20-35 years, gestational age between 37-41 weeks and inter delivery interval >18 months whereas all those cases with previous history of uterine rupture or classical caesarean scar and fetal macrosomia > 4000 grams (about 8.8 pounds) were excluded from this trial. Prior to this study, we got approval from hospital ethical committee. The identity of patient was recorded and an informed consent was taken. Patients were admitted in labour ward, thorough history was elicited as per the Performa regarding age, weight, parity, previous obstetric performance including number of vaginal deliveries prior to this pregnancy, indication for previous C-section, any antepartum complication in this pregnancy e.g. major degree placenta Previa. A detailed general, physical, systematic and obstetric examination was done. They were carefully monitored in intrapartum period for any sign of uterine rupture e.g. abnormal fetal heart rate patterns, severe abdominal pain if persisting between contractions, acute onset scar tenderness, abnormal vaginal bleeding, haematuria, maternal tachycardia, hypotension & shock. Progress of labour was monitored. All the information was recorded on proforma and patients undergoing vaginal delivery after cesarean section was noted. Numerical values like age, gestational age and parity were calculated as mean and sd. Frequency and percentages were calculated for all qualitative variables like vaginal birth, previous vaginal delivery and indication for previous cesarean section.

RESULTS:

Age distribution of the patients was done, it shows that 73%(n=73) were between 20-30 years of age whereas 27%(n=27) were between 31-35 years of age, mean$\pm$sd was calculated as 28.18$\pm$4.86 years. (Table No. 1)

Mean gestational age was calculated as 39.00$\pm$4.09 weeks, parity distribution shows that 80%(n=80) were 1-2 paras while 20%(n=20) had >2 paras, mean$\pm$sd was calculated as 1.97$\pm$0.68 paras.

Frequency of previous vaginal delivery was recorded in 48%(n=48) whereas 52%(n=52) had no history previous vaginal delivery. (Table No. 2)

Frequency of vaginal delivery after 1 cesarean section was recorded in 66%(n=66) while 34%(n=34) had no vaginal delivery after 1 cesarean section. (Table No. 3)

Indications of previous cesarean section was recorded as 21%(n=21) with Cephalopelvic disproportion, 11%(n=11) had mal-presentation, 13%(n=13) had multiple pregnancy, 17%(n=17) had severe hypertensive disease in pregnancy, 25%(n=25) had failed induction of labour and 13%(n=13) had fetal conditions. (Table No. 4)

TABLE No. 1: AGE DISTRIBUTION (n=100)

Age(in years)	No. of patients	%
20-30	73	73
31-35	27	27
Total	**100**	**100**
Mean±SD	**28.18±4.86**	

TABLE No. 2: FREQUENCY OF PREVIOUS VAGINAL DELIVERY(n=100)

Previous vaginal delivery	No. of patients	%
Yes	48	48
No	52	52
Total	**100**	**100**

TABLE No. 3: FREQUENCY OF VAGINAL DELIVERY AFTER 1 CESAREAN SECTION (n=100)

VBAC	No. of patients	%
Yes	66	66
No	34	34
Total	**100**	**100**

TABLE No. 4: INDICATIONS OF PREVIOUS CESAREAN SECTION (n=100)

Indications of previous cesarean section	No. of patients	%
Cephalopelvic disproportion	21	21
Mal-presentation	11	11
Multiple pregnancy	13	13
Severe hypertensive disease in pregnancy	17	17
Failed induction of labour	25	25
Fetal conditions	13	13
Total	**100**	**100**

DISCUSSION:

This study was planned to give a trial of labour to those women who are fulfilling the inclusion criteria to record the exact frequency of successful VBAC as previous data is variant in international studies. In this study, out of 100 cases, 73%(n=73) were between 20-30 years of age whereas 27%(n=27) were between 31-35 years of age, mean±sd was calculated as 28.18±4.86 years, frequency of vaginal delivery after 1 cesarean section was recorded in 66%(n=66). Previous study recorded that success rate of vaginal birth after 1 C-section is 59.5% [6], these findings are in agreement with our results while another study concluded that it is 83.47% [8] these findings are higher than recorded in our study. Trial of labour after caesarean (TOLAC) delivery is currently a hot obstetrical topic owing to the acute rise in the rate of caesarean deliveries, both primary and repeat. Certain labour management practices increase the risk for uterine rupture 2–3 times, although the absolute increase is small from a baseline uterine rupture rate. After accounting for labour duration, induction is not associated with an increased risk of uterine rupture in women undergoing TOLAC [9].

A case control study of 24 cases of uterine rupture where oxytocin had been given during TOL after prior cesarean delivery and 96 controls that also received oxytocin but had no uterine rupture

examined the relationship of oxytocin dose to rupture.[10] The study was powered to find a difference of 40 percent in the duration of oxytocin or a 65 percent increase in total dose. None of the multiple analyses found a statistically significant difference, although the difference in duration of oxytocin (530 minutes in the uterine rupture group compared with 476 in the nonrupture group) achieved a p value of 0.08. The study was small, and the large differences of 40 percent for duration and 65 percent for dose appear to have been set arbitrarily. Further analysis of the impact of dose on uterine rupture rate may be warranted.

As recorded previously, prior vaginal delivery and prior VBAC consistently appear to significantly reduce the risk of uterine rupture with odds ratios of 0.26 to 0.62 for prior vaginal delivery and 0.52 for prior VBAC. Inter-delivery interval less than 18 to 24 months and single layer closure appears to increase risk of uterine rupture with odds ratios of 2.05 to 2.65, and 3.95 to 4.33, respectively. However, caution should be used in interpreting the finding for layers of closure as this is based upon one study and the same study reports an increased risk for uterine rupture among preterm births, which is contrary to the reports of TOL and ERCD cohort studies.

Two fair quality studies[11-12] provided information regarding neonatal trauma. In a large, population based study, Gregory et al found the frequency of trauma to be higher in women who attempted VBAC versus ERCD, regardless of whether the mother had a high-risk clinical condition (3.73 percent attempted VBAC versus 0.77 percent ERCD).[12] Sub analyses found that among women who attempt VBAC those with a history of substance abuse were more likely to have neonatal trauma (odds ratio 4.4; 95 percent CI: 1.1 to 18.2) as were those with ruptured membranes longer than 24 hours (odds ratio 4.2; 95 percent CI: 1.7 to 10.2). That study used ICD-9 codes to define trauma (763.1,2,3,4; 7.67.2,3,4,5,6,7,8,9). These codes represented fetal malposition's and varying types of delivery affecting the fetus, as well as skeletal, nerve, and cranial injuries.

In our study, we did not record any complications following VBAC, however, in coming trials we may record these complications for further validation of the results while making decision regarding VBAC.

CONCLUSION:

We concluded that the frequency of vaginal delivery after 1 cesarean section is higher, however, complications following this delivery may be recorded in coming trials, which will further helpful while making decision of VBAC.

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