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Frequency of Placenta Previa on Ultrasonography in Females with History of Caesarean Section

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Abstract

Background: Placenta previa (P.P) is a condition where the lower edge of the placenta lies close to the internal os. It may partially or completely cover the internal os. Objectives: To determine the frequency of placenta previa on ultrasonography in females with history of Caesarean section. Methodology: This descriptive study was held in Ghurki Trust Teaching Hospital Lahore and Tehsil Headquarter Hospital, Pattoki. Convex Probe Esotae 2.5 5-7MHz and Logiqv3 (5-7MHz) was used in the study. 140 pregnant women with history of previous Caesarean section were included in the study and were examined through convenient sampling. Data was collected after signing the consent form. Statistical software for social sciences (SPSS version 22.0) is used for the analysis of data. Results: According to the data analysis, minimum age patient was of 18 years and maximum age was 41 years. 37(26.4%) women had 1 previous Caesarean section. 57(40.7%) women had 2, 31(22.1%) women had 3, 15(10.7%) had 4 of previous Caesarean sections. 86(61.4%) women had a history of bleeding. 54(38.6%) women had no history of bleeding. According to analysis of placenta previa, 126(90.0%) women did not have a placenta previa and 14(10.0%) women had placenta previa. Cross tabulation analysis between frequency of patients with placenta previa and previous Caesarean cases evaluated that 126 patients with previous Caesarean rate did not placenta previa confirmed on ultrasound whereas 14 patients with previous Caesarean section had placenta previa on ultrasound. Conclusion: Placenta previa is seen in ten percent of subsequent pregnancies in females who have a history of previous Caesarean section.

Keywords: Placenta Previa, Caesarean Section, Ultrasonography

Introduction

Placenta previa is defined as placenta lying entirely or in part in the lower uterine segment. Its incidence is about 0.28–2%.(Sakornbut et al., 2007) In local studies frequency of 0.51–3.5% has been reported.(Gilliam et al., 2002) Advancing maternal age, multiparity, previous Caesarean sections, miscarriages, uterine curettage, cocaine use, smoking and previous history of placenta previa have all been attributed as risk factors for placenta previa.(Hossain

et al., 2004) In singleton pregnancies, the most common identifiable etiological factor is previous uterine damage due to repeated pregnancies or surgical procedures.(Crane et al., 2000) Placenta previa (P.P) is a condition where the lower edge of the placenta lies close to the internal os. It may partially or completely cover the internal os.(Cox et al., 2005) It is found to complicate 0.3% - 0.8% of all pregnancies worldwide.(Cunningham et al., 2005) The major cause of vaginal bleeding in the 2nd and 3rd trimester is placenta previa.(Cunningham et al., 2014) Placenta previa is an infrequent but life-threatening complication of pregnancy when a placenta completely or incompletely covers the internal cervical os, thereby complicating the normal vaginal delivery.(Faiz and Ananth, 2003) Diagnosis of placenta previa by sonography is a simple, safe and accurate method. Transvaginal sonography may be used to investigate placental localization at any time in pregnancy when the placenta is thought to be low lying. It is significantly more accurate than transabdominal sonography and its safety is well established.(Oppenheimer et al., 2007) After mid-pregnancy, the risk of persistence appears to be higher. Placenta previa at 15-19 weeks, 20-23 weeks, 24-27 weeks, 28-31weeks and 32-35 weeks, persisted until delivery in 12%, 34%, 49%, 62%, 73% respectively.(Dashe et al., 2002).

This study intends to describe the frequency of placenta previa in patients who have previously undergone lower segment Caesarean sections which in turn may help to establish new screening test criteria and also help in generation of further hypotheses and research questions.

Methodology

This descriptive estudy was held in Ghurki Trust Teaching Hospital Lahore and Tehsil Headquarter Hospital, Pattoki. Convex Probe Esotae 2.5 5-7MHz and Logiqv3 (5-7MHz) was used in the study. 140 pregnant women with history of previous Caesarean section were included in the study and were examined through convenient sampling. Data was collected after signing the consent form. Statistical software for social sciences (SPSS version 22.0) is used for the analysis of data.

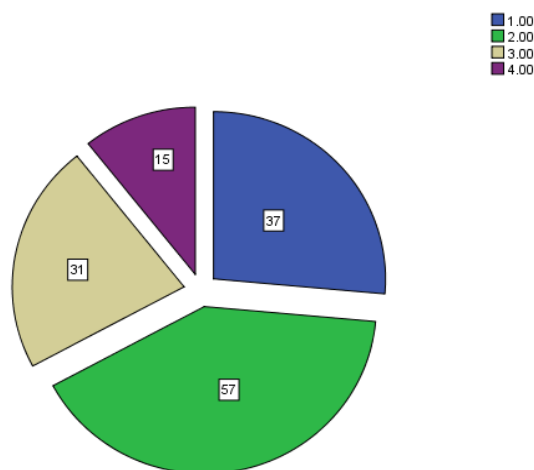
Results

This is a descriptive study. Data of total of 140 patients was recorded. According to the data analysis, minimum age patient was of 18 years and maximum age was 41 years. 37(26.4%) women had 1 previous Caesarean sections. 57(40.7%) women had 2, 31(22.1%) women had 3, 15(10.7%) had 4 of previous Caesarean sections. 86(61.4%) women had a history of bleeding and 54(38.6%) women had no history of bleeding. According to analysis, 126(90.0%) women did not have a placenta previa and 14(10.0%) women had placenta previa. Cross tabulation analysis between frequency of patients with placenta previa and previous Caesarean cases evaluated that 126 patients with previous Caesarean rate did not have placenta previa confirmed on ultrasound whereas 14 patients with previous Caesarean section had placenta previa on ultrasound.

Table 1: Number of previous Caesarean section

Number of Caesarean cases	Frequency	Percent
1.00	37	26.4
2.00	57	40.7
3.00	31	22.1
4.00	15	10.7
Total	140	100.0

According to Table 1 : Analysis of number of previous caesarean section 37(26.4%) women had 1 case of Caesarean. 57(40.7%) women had 2, 31(22.1%) women had 3, 15(10.7%) had 4 cases of Caesarean cases.

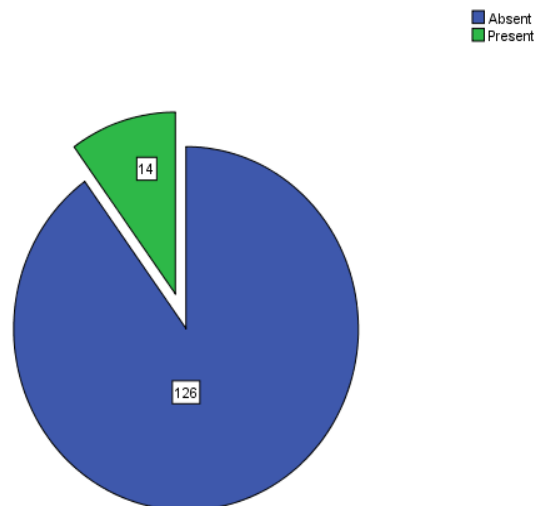


Graph 1: Graphical representation of number of previous Caesarean section among women

Table 2: Frequency of subjects with or without Placenta previa

Placenta Previa	Frequency	Percent
Absent	126	90.0
Present	14	10.0
Total	140	100.0

According to Table 2: Frequency of placenta previa, 126(90.0%) women had not confirmed placenta previa and 14(10.0%) women had placenta previa out of 140(100%).



Graph 2: Graphical representation of frequency of placenta previa

Table 3: Placenta Previa * No of C-section Crosstabulation

			No of C-section				Total
			1.00	2.00	3.00	4.00	
Placenta Previa	Absent	Count	33	52	27	14	126
		% within Placenta Previa	26.2%	41.3%	21.4%	11.1%	100.0%
	Present	Count	4	5	4	1	14
		% within Placenta Previa	28.6%	35.7%	28.6%	7.1%	100.0%
Total		Count	37	57	31	15	140

	% within Placenta Previa	26.4%	40.7%	22.1%	10.7%	100.0%
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Table 3: explains the relation between frequency of placenta previa and frequency of Caesarean section among women. Out of 126 women who did not confirmed placenta previa, 3(26.2%) had 1 Caesarean case, 52(41.3%) had 2 previous Caesarean cases, 27(21.4%) had 3 and 14 (11.1%) had 4 previously Caesarean cases. Similarly, out of 14 confirmed cases, 4(28.6%) women had 1, 5(35.7%) had 2, 4(28.6%) had 3 and 1(7.1%) case had 4 previous Caesarean cases.

DISCUSSION

In this study, data of total of 140 patients with the history previous Caesarean sections history was controlled. According to the data analysis, minimum age patient was of 18 years and maximum age was 41 years. 37(26.4%) women had 1 previous C-section. 57(40.7%) women had 2, 31(22.1%) women had 3, 15(10.7%) had 4 of previous Caesarean sections. 86(61.4%) women had a history of bleeding. 54(38.6%) women had no history of bleeding. According to analysis of placenta previa, 126(90.0%) women did not have a placenta previa and 14(10.0%) women had placenta previa. Cross tabulation analysis between frequency of patients with placenta previa and previous Caesarean cases evaluated that 126 patients with previous Caesarean rate did not placenta previa confirmed on ultrasound whereas 14 patients with previous Caesarean section had placenta previa on ultrasound.

The frequency of Caesarean section is increasing, worldwide with a parallel rise in maternal mortality and mortality. The higher incidence of Caesarean delivery today is strongly associated with greater frequency of placenta previa.(Warshak et al., 2006)

A study done by Farahnaz Keshavarzi showed that 98 out of 2696 cases with history of Caesarean delivery had placenta previa. Many studies conducted around the world confirm a 2 to 5 fold increase risk of placenta previa with previous history of C-section.(Getahun et al., 2006) The association of placenta previa with previous C-section (3.63%).(Silver et al., 2006) In our study, only and 14(10.0%) women had placenta previa. (Garmi and Salim, 2012) According to this study 23.5% women with P.P are more than gravida 3 while Shaukat found 60.6% women with P.P are more than gravida 5.(Nasreen, 2003) According to our study, 37(26.4%) women had 1 case of Caesarean. 57(40.7%) women had 2, 31(22.1%) women had 3, 15(10.7%) had 4 cases of Caesarean cases. 86(61.4%) women had a history of bleeding. 54(38.6%) women had no history of bleeding. According to analysis of placenta previa, 126(90.0%) women had placenta previa and 14(10.0%) women had not. In my study, increasing rate of Caesarean section did not lead to an increased frequency of placenta previa.

Conclusion

Placenta previa is seen in ten percent of subsequent pregnancies in females who have a history of previous Caesarean section.

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