INTRODUCTION

Antepartum haemorrhage (APH) continues to be a major cause of morbidity and mortality even in modern days. It is one of the most frequent emergencies in obstetrics occurring at a prevalence of 0.5–5%.\textsuperscript{1} Ante partum haemorrhage is defined as bleeding from genital tract occurring from twenty four weeks of gestation till the end of pregnancy.\textsuperscript{2} Whereas up to 20% of these bleeding episodes have been attributed to placenta previa and 30% to placental abruption, at least half are of undetermined etiology.\textsuperscript{3} Placental abruption is defined as bleeding following premature separation of normally attached placenta from twenty four weeks of gestation to the delivery of the baby. It can lead to considerable maternal and perinatal morbidity and mortality.\textsuperscript{4} The condition is more common with increasing age and parity\textsuperscript{5} and maternal effects depend upon its severity\textsuperscript{6}. These effects may include haemorrhagic shock, generalized coagulopathy and ischemic necrosis of the organs like kidneys, hepatic, adrenal and pituitary, uterine apoplexy or couvelaire uterus which leads to postpartum haemorrhage.\textsuperscript{7}

Caesarean section is associated with significant maternal morbidity and mortality. Caesarean section causes reduction in family size and can lead to complications in subsequent pregnancies. Associations have been studied between previous C-sections and subsequent ectopic pregnancy, placenta previa, placental abruption, placenta accreta and uterine rupture.\textsuperscript{8,11} The objective of this study is to know whether any significant association exists between placental abruption and caesarean sections in our setup. Results will be shared with gynaecologists and obstetricians and in case of non-significant results, proper management of patients with placental abruption through modalities other than caesarean sections can be considered.

MATERIAL AND METHODS

This analytical cross-sectional study was conducted in the Obstetrics and Gynaecology Department, Khyber Teaching Hospital, Peshawar from July 26\textsuperscript{th}, 2011 to May 1\textsuperscript{st}, 2013, i.e., 21 months. A sample size of 334 (calculated using WHO software), was obtained using random numbers table. Ethical approval was granted by the ethical committee of Khyber Teaching Hospital Peshawar.

All pregnant women presenting with antepartum haemorrhage after 28 completed weeks of gestation, of age group 15–45 years and of any gravidity and parity were included in the study. Patients having history of previous Caesarean section, cephalopelvic disproportion, abnormal lie and presentations, and placenta previa were excluded.
Data was collected from all those patients who were received with antepartum haemorrhage. An informed written consent was taken from all the patients or their relatives. A detailed history of the age, parity, period of gestation, booking status, obstetrical, past surgical and medical was taken. General physical, abdominal and obstetrical examinations were done. All qualified patients with or without abruptio placentae were observed till labour to know whether they underwent caesarean section or not. All observations were made under the supervision of an expert obstetrician.

Data was analysed using SPSS version 16. Descriptive statistics like mean and standard deviation were calculated for continuous variables while percentage and frequencies were calculated for categorical variables. Odd ratios, and 95% confidence intervals were calculated while chi-square test at 5% level of significance was applied.

RESULTS

This study was conducted on 334 participants. The mean age of the participants was 29 years SD±6.06 with mean parity of 3 SD±2.5 (Table-1)

C-section was performed on a total of 88 (26.3%) patients. Twenty-five (7.5%) patients had placental abruption and underwent C-section as well. While 246 (73.6%) patients did not undergo C-section. Forty-four (13.1%) patients had placental abruption but did not undergo C-section.

C-section was performed on a total of 88 (26.3%) patients. 25(7.5%) patients having placental abruption underwent C-section. While 246 (73.6%) patients did not undergo C-section (Figure-1).

Of the total 69 patients having abruptio placentae, C-section was performed on 25 (36.23%) of the patients with placental abruption, while 44(13.1%) patients having placental abruption were managed without C-section. 63(23.77%) of the patients without placental abruption eventually had to undergo C-section (Figure-2). Statistically significant association ($p=0.03$) was found between abruptio placentae and C-section (Table-2)

![Figure 1](http://www.jamc.ayubmed.edu.pk)

**Figure 1:** Percentage of C-section among study participants

![Figure 2](http://www.jamc.ayubmed.edu.pk)

**Figure 2:** C-Section in placental abruption

DISCUSSION

Results of this study showed that among all participants, parity had the highest dispersion while gestational age had the lowest (Table-1). Gestational age is not under individuals control so we observed uniformity. As for as parity is concerned, there is no regulation in Pakistan that determines number of children, and women don’t enjoy the autonomy of decision making regarding their reproductive health and birth spacing. Global rate of caesarean section is unknown but it is a fact that its trend is increasing.

In the UK, USA and sub Saharan Africa, its rate is up to 22%.

According to this study, caesarean section was performed on 88 (26.3% with 95% CI: 21.58% to 31.02%) of the study participants (Figure-1). Abruption placenta was found among 69 (20.6%) of the participants (Figure-1). This was comparable to a study carried out in India where the incidence of placental abruption was 29.5% among patients presenting with antepartum haemorrhage.

On the contrary, a study by Oyelese and Ananth et al show the proportion of placental abruption as 3.8% and 2.12% of pregnancies in different settings outside Pakistan. High proportion in our study might be attributed to the strict inclusion/exclusion criteria not counting all pregnancies but only those with ante partum complications.
haemorrhage. The same study by Oyelese and Ananth *et al* communicates that the incidence of placental abruption is highest at 24–26 weeks of gestation and drops with advancing age while in this study, all participants were equal to or above 28 weeks of gestation (Table-1).

A study conducted in Thailand shows that 84% of patients with placental abruption underwent C-section. According to a study, conducted in Hyderabad, Pakistan, 3.6% of the study participants had Abruptio placenta and out of those, 35.65% underwent C-section while another study conducted at Abbottabad, Pakistan, 4.4% of the study participants had placental abruption and out of those, 30.2% underwent C-section, whereas in our study, 20.6% of the participants had placental abruption and out of those, 7.5% underwent C-section (Figure-1). However the proportion of C-section done on patient with placental abruption was higher than the proportion of C-section done on patient without placental abruption (Figure-2) and this difference was found to be statistically significant (Table-2). In other words, we can say that the difference observed in this study is real and not just by chance. We find a positive association between placental abruption and C-section.

**CONCLUSION**

There is little or no consensus among published literatures about the proportion of patients with placental abruption and performance of C-section. However risk of caesarean section is increased in pregnancies complicated by placental abruption as compared to pregnancies complicated by other causes of ante partum haemorrhage. Further studies with advanced designs are needed to know more about this research question in our set up.

**AUTHOR’S CONTRIBUTION**

SG principal investigator, data collection, literature search. SA: data analysis and write-up. TJ, GR, AM, MI, data collection, write-up.

**REFERENCES**


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