

# Maternal and Neonatal Outcome Following Caesarian Section for Placenta Previa, in El-Obeid Teaching Hospital, North Kordofan State, Sudan

Khidir Elamin Awadalla<sup>1</sup>, MD. JMHPE, Mohammed Ibrahim Ahmed Yassin<sup>1</sup> MD and Samira Makki Ahmed<sup>2</sup>, MD

<sup>1</sup>Associate Professor MD, in Obst. and Gyn. Faculty of Medicine, University of Kordofan, North Kordofan State, Sudan

<sup>2</sup>Assistant Professor MD, Faculty of Medicine, University of Kordofan, North Kordofan State, Sudan

**Abstract:** *The current study was conducted in Elobeid Teaching Hospital, Department of Obstetrics and Gynaecology, covering the period July- December 2013. Objectives: To study maternal and fetal outcome for patients with placenta praevia delivered by caesarian section CS, to identify the patients demographic characters and to determine the relation of placenta praevia with history and number of uterine scars. Methodology: This is descriptive analytical hospital-based study. Data collected by reviewing the medical records of patients admitted and had a caesarian section for placenta previa and analyzed using descriptive statistical analysis. Results: 56.3% of the cases delivered by emergency C/S, while 43.7% delivered by elective C/S, emergency CS by itself carries greater risks than when it is done as an elective procedure. Poor ANC is one of the main contributors to increased incidence of emergency CS. (70.8 %) babies were delivered preterm and only (29.2 %) babies delivered at term. The results also showed that there was strong correlation between number of scars (P. value = 0.000), maternal age (P. 0.006), parity (P. 0.001) and placenta praevia. Conclusion: Major maternal complications were postpartum hemorrhage, caesarean hysterectomy and need for blood transfusion. Perinatal morbidity is higher. Fetal complications were prematurity, fetal distress and neonates' admission to Neonatal Intensive Care Unit.*

**Keywords:** *Placenta praevia, Scars, postpartum, morbidity, preterm, hemorrhage, North Kordofan.*

## I. INTRODUCTION

Pregnancy is an important but potentially stressful period in a woman's life. When an unexpected, potentially dangerous event such as vaginal bleeding occurs, it is extremely upsetting for expectant mother and father.<sup>[1]</sup>

Placenta praevia and abruption are the two most common causes of vaginal bleeding in the 2nd half of pregnancy. In many cases early intervention can make the difference between life and death for the fetus and at a time the mother as well.<sup>[2]</sup>

The placenta connects the fetus to the uterine wall and is the organ by means of which the nutritive, respiratory and excretory functions of the fetus are carried on.<sup>(1)</sup> It is usually attached near the fundus, but it may occupy lower position giving rise to a condition known as placenta praevia (PP).<sup>[2]</sup>

Placenta praevia (PP) is defined as the implantation of the placenta wholly or partially in the lower uterine segment.<sup>[2]</sup>

There was found to be strong relationship between previous C/S- previous D & C and development of placenta praevia.<sup>[3]</sup>

## II. METHODS AND DESIGN

The study used a cross-sectional descriptive comparative, hospital-based study. To study the diagnosis and management of placenta praevia in Scarred and Non-Scarred uterus. This study was conducted in Department of Obstetrics and Gynaecology at Elobied Teaching Hospital, the largest hospital in the Western Sudan; it covers medical services to whole of the city and rural area around. It has all medical specialties, the Department of Obst&Gyne was covered by five units, there are more than 80 beds, the referred clinic attended by about 50 women per day, and also there are ultrasound clinic and theater. The study targeted all pregnant women who were diagnosed to have placenta praevia either clinically or by ultrasound were included in this study, no criteria for exclusion. The data was collected via questionnaire through the period from July 2013 to December 2013, the total sample was 103 patients. A power analysis was conducted using Sample Power Statistical Package for Social Sciences SPSS program. Descriptive analysis in form frequency tables and figures Correlation coefficient of the results between scarred and non scarred uterus and placenta praevia, chi-squared test and the values was considered as statistically significant when the  $P < 0.05$ . All study population were verbally consent. The confidentiality of the patients was established by coding of the questionnaires. Approval consent was taken from hospital manager. No interference with hospital management protocol

## III. RESULTS AND DISCUSSION

The total number of patients was 103. Their age distribution was as follows 15-24 years were 22 (21.3 %), 25 -34 years were 62 ( 60.1 %) and  $\geq 35$  years 19 (18.4%) (Fig.1). In this group of cases there was no significant correlation PP and maternal age (  $p \geq 0.248$ ), not

consistent with the significant association between advanced maternal age and the development of PP.<sup>(4,5,6)</sup>

Thirty nine (37.8%) of them were from urban residence and 64 (62.2%) from rural areas (Fig. 2). Fifty three (51.5%) were illiterate, 50 cases (48.5%) were educated. Ninety three (90.2%) of the cases had  $\leq 3$  ANC visits, ANC services tend to be unequally distributed between urban and rural residence as in this group of patients the majority were living in rural areas and at the same time having poor ANC services. Multiparae were 75 (72.8%) while grandmultiparae and primigravidae were 15 (14.5%) and 13(12.7%) respectively (Fig.3). Forty two (40.7%) had no previous CS scar, 16 (15.5%) had one CS scar, 19 (18.4%) had 2 and 26 (25.2%) had  $\geq 3$  CS scars, parity alone seems not to be associated with development of PP but in cases when parity (Fig.4). The results showed significant correlation between high parity and PP ( $P = 0.001$ ). This was consistent with what has been found in previous studies, which reported that increasing parity was associated with increased risk of occurrence of PP.<sup>(7)</sup> These results agreed with literature which reported that number of prior cesarean deliveries (incidence 10 percent after 4 or more,<sup>[5]</sup> is linked to CS deliveries the relation is statistically significant ( $p \leq 0.05$ ), in one large series, composite maternal morbidity in women with PP and zero, one, two, or three prior cesarean deliveries was 15, 23, 59, and 83 percent, respectively.<sup>(8)</sup> Fifty eight (56.3%) of the cases were delivered by emergency C/S, while 45 (43.7%) delivered by elective C/S (Fig. 5), emergency CS by itself carries greater risks than when it is done as an elective procedure. Poor ANC is one of the main contributors to increased incidence of emergency CS. Seventy three (70.8%) babies were delivered preterm and only 30 babies (29.2%) delivered at term. Preterm delivery is a leading cause of perinatal morbidity and mortality. In this study, 73 (90.8%) of babies were delivered preterm. There is an inverse correlation between the gestational age at onset of vaginal bleeding and the probability of preterm delivery (i.e., the earlier the bleed the greater the risk of prematurity.<sup>(8)</sup> In 6 cases (5.8%) placenta was previa accrete, in which case separation and delivery of the placenta is associated with higher risk of intrapartum hemorrhage and caesarian hysterectomy. Postpartum hemorrhage occurred in 43 (41.7%) women, hysterectomy was performed for 20 (19.4%) women, and suspected internal bleeding occurred in 26 (25.2%) women, reopening of the abdomen was carried in 15 of the cases. Blood transfusion of 3 or more units of whole blood was performed in 58 (56.3%) of the cases. Ureteric and urinary bladder injury occurred in 15 (14.6%) women. One patient died on table, she was severely anemic at the time of admission and suffering massive APH. Regarding maternal complications, most important complications encountered in this study were intra- and postpartum hemorrhage (41.7%), caesarean hysterectomy (19.4%), and need for

blood transfusion (56.3%), ureteric and urinary bladder injury (14.6%). PP increased the risk of postpartum hemorrhage from 9.7% to 17.5% (adjusted odds ratio (OR) 1.91; 95% CI: 1.74 to 2.09), the risk of blood transfusion from 1.4% to 6.4% (OR 4.39; 3.76 to 5.12), and the risk of hysterectomy from 0.03% to 1% (OR 39.70; 22.42 to 70.30).<sup>(7)</sup> Sixteen (15.5%) of the babies born dead and 43 (41.7%) admitted to the Nursery. In this study there were 43(41.7%) admissions to NICU. These results agreed with previous study report, as expected, preterm births and neonatal intensive care unit (NICU) admissions were significantly more frequent in the PP group.<sup>(7)</sup> Mortality in this study was 16 (15.5%) babies, from those admitted to NICU. This explains that principal causes of prenatal mortality and morbidity may be related to preterm delivery.<sup>(9)</sup>

#### IV. CONCLUSIONS

Caesarian section for placenta previa is a special obstetric event.

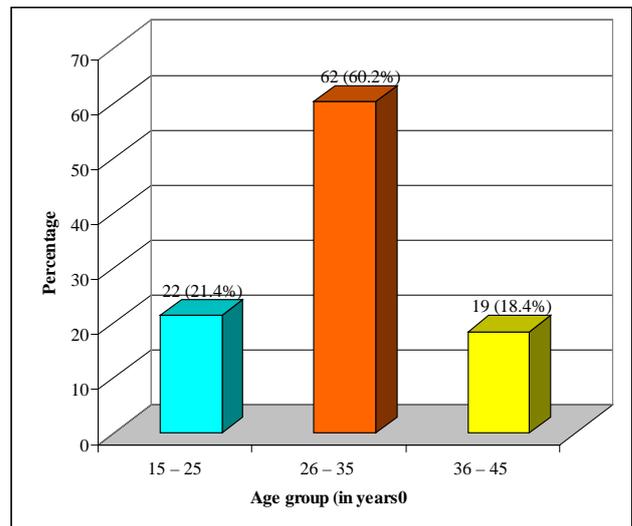


Figure 1: Distribution of the study group according to age

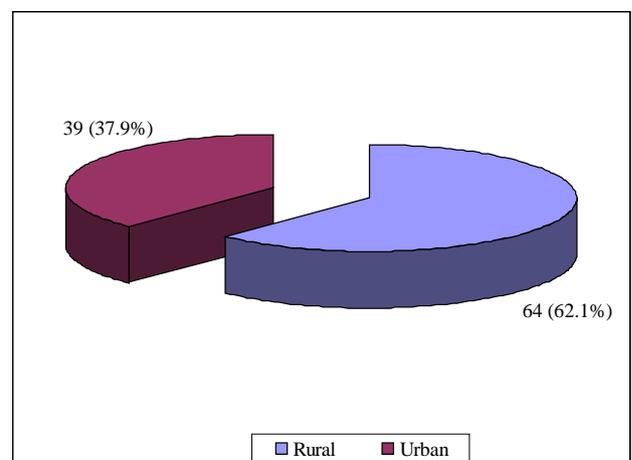


Figure 2: Distribution of the study group according to residence

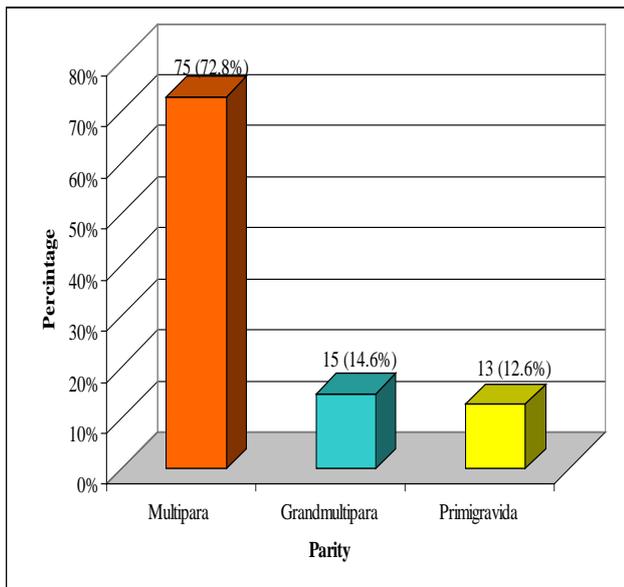


Figure 3: Distribution of the study group according to parity

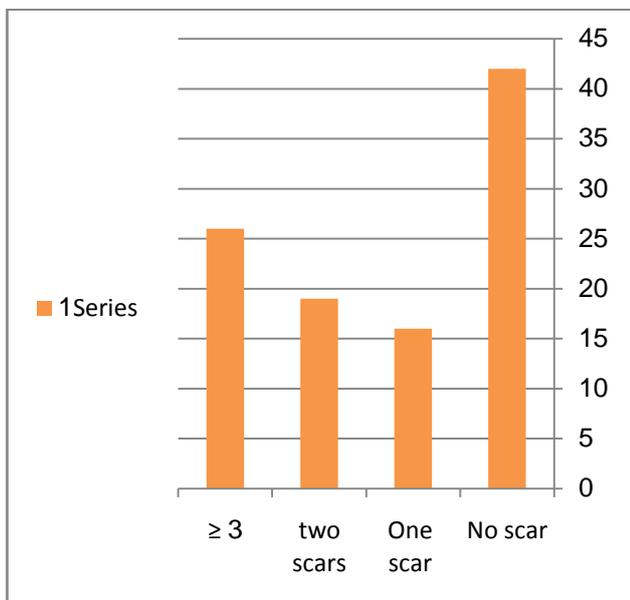


Fig. 4 Distribution of PP patients by number of previous CS scars

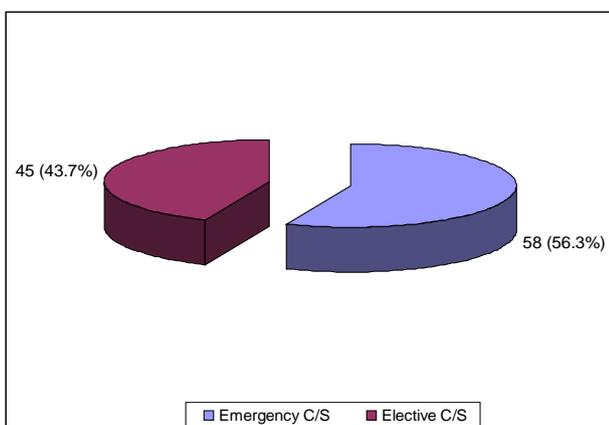


Figure 5: Distribution of the study group according to mode of delivery

As it appeared in this and other similar studies, the procedure is associated with very serious risks and complications for both, mother and newborn baby. These risks and complications are also greatly increased when it is carried out as an emergency procedure. Since CS scar is now a well recognized cause of abnormal placentation, all efforts should be made to avoid unnecessary caesarian deliveries. Patients with caesarian section scars should be screened regularly for abnormal placentation. The operation when it is planned should be carried as an elective procedure by the most experienced of the hospital staff.

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