

Research Article

The Pattern of Abruptio Placenta in Cameroon

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Abstract

Abruptio Placenta (AP) is a premature partial or total separation of a normally implanted placenta from the uterine wall before the fetal delivery resulting in hemorrhage. This study aimed at evaluating the risk factors, maternal and perinatal outcome associated with abruptio placenta at the Yaounde university teaching hospital in Cameroon.

The overall 67 files of patients with AP were identified for a period of 10 years including January 2000 to December 2009. After each case of AP the files of the 3 women who delivered after her, without AP constituted the control group. We excluded 4 files in the AP group and 12 files in the control group because of missing or alteration making them useless. Finally 63 files for case and 189 for controls were analyzed. The level of significance was 0.05.

During our period of study, a total of 20788 deliveries were registered among which 67 with AP (0.32 % of deliveries). The patient's age varied from 16 to 45 years with the mean of 27.58 years old. Compared to the controls, the risk of AP was insignificantly increased in teenagers mothers (11.1% vs. 6.9%; OR: 1.66; 95% CI: 0.6 – 4.3; P = 0.298) and housewives (47.6 vs. 37.6%; OR: 1.40; 95%CI: 0.7 – 2.5; P=0.266). Women with AP were more likely to deliver a stillbirth (46% vs. 4.2%). No maternal death was recorded.

Our findings justify the need for large quantitative and qualitative studies to understand more about the epidemiology of AP in Cameroon.

INTRODUCTION

Abruptio Placenta (AP) is a premature partial or total separation of a normally implanted placenta from the uterine wall before the fetal delivery resulting in hemorrhage. Recent large epidemiological studies reported an incidence ranging from 0.3 to 0.9 % of births, however some studies reported an incidence up to 4.4% of deliveries [1-4]. AP is a life saving condition with a high perinatal mortality reported to be up to 65% and fatality rate of up to 3% [3-6]. Little is known about AP in Cameroon, we therefore initiated this cross-sectional analytic study approved by the National Ethical Committee, intending to bring about our own contribution for better knowledge on this condition in our country.

OBJECTIVES

This study aimed at evaluating the risk factors, maternal and

perinatal outcome associated with abruptio placenta at the Yaounde university teaching hospital in Cameroon.

Methods

Data were collected retrospectively from the delivery room registers at the Yaounde University Teaching Hospital; Cameroon for a period of 10 years including January 2000 to December 2009. The diagnosis of abruptio placenta in our setting is suspected from its clinical manifestations and confirmed by ultrasonography. However, in emergency condition the diagnosis is sometime based on the ante-partum haemorrhage characteristics.

The overall 67 files of patients with AP were identified during the study period. After each case of AP the files of the 3 women who delivered after her, without AP constituted the control group. We excluded 4 files in the AP group and 12 files in the control group because of missing or alteration making them useless. Finally 63

files for case and 189 for controls were analyzed. A questionnaire designed, tested and adapted for the study was used to record data from the patient medical document and registers. For both groups of patients, we collected information on the age, parity, history of the pregnancy, fetal vital signs, maternal and fetal complications. Data analysis was performed using EPI Info 3.5.1, CDC; Atlanta, USA. Characteristics of abruption and non-abruption parturients were compared. The chi-square test was used to compare the distribution of the various qualitative variables in the two study populations; Fisher's exact test was used when expected values of at least one cell in the contingency table were less than 5. Odds ratios (OR) with 95% confidence interval (CI) were used to quantify the strength of association. A difference in both groups was considered to be statistically significant if the P value was < 0.05.

RESULTS

During our period of study, a total of 20788 deliveries were registered among which 67 with AP (0.32 % of deliveries). Among the overall 63 included patient's files, 37 recorded a living fetus at arrival (58.8%).

Sociodemographic and reproductive characteristics of study populations are presented in (Tables 1-3). The patient's age varied from 16 to 45 years with the mean of 27.58 years old. Patients with AP were more likely to be adolescent (11.1% vs. 6.9%), housewife (47.6% vs. 37.6%) and married (52.4% vs. 45.5%) (Table 1). Past obstetrical history was equally distributed among the two study populations including previous abruption placenta (1.6% vs. 0%), past history of cesarean delivery (6.3% vs. 5.3%) (Table 2). Abruption patients were more likely to deliver before 37 weeks (36.8% vs. 10.7%), to deliver by cesarean section

Table 1: Distribution of the study population according to their socio-demographic characteristics.

Characteristics	Placenta abruption		P-value
	Case	Control	
	N = 63 N (%)	N = 189 N (%)	
Age (in classes)			0.003*
15 - 19	7 (11.1)	13 (6.9)	
20 - 24	14 (22.2)	48 (25.4)	
25 - 29	24 (38.1)	57 (30.2)	
30 - 34	46 (24.3)	46 (24.3)	
35 - 39	4 (6.3)	19 (10.1)	
40 - 45	2 (3.2)	3 (1.6)	
Undetermined	0 (0.0)	3 (1.6)	
Occupation			0.66
Housewife	30 (47.6)	71 (37.6)	
Civil servant	6 (9.5)	28 (14.8)	
Student	14 (22.2)	47 (24.9)	
Trader	8 (12.7)	27 (14.3)	
Others	5 (7.9)	16 (8.5)	
Marital status			
Bachelor	30 (47.6)	100 (52.9)	0.63*
Married	33 (52.4)	86 (45.5)	
Divorced	0 (0.0)	1 (0.5)	
Undetermined	0 (0.0)	2 (1.1)	

% percentage, *High Blood Pressure *Fischer exact test

Table 2: Distribution of the study population according to their past reproductive characteristics.

Characteristics	Placenta abruption		p-value
	Case	Control	
	N = 63 N (%)	N = 189 N (%)	
Previous deliveries			0.26
0	21 (33.3)	82 (43.4)	
1	17 (27)	32 (16.9)	
2 - 3	17 (27)	32 (16.9)	
4 - 5	5 (7.9)	12 (6.3)	
6 - 10	3(4.8)	7 (3.7)	
History of placenta abruption			0.06
No	56 (88.9)	181 (95.8)	
Yes	1 (1.6)	0 (0)	
Unknown	6 (9.5)	8 (4.2)	
History of caesarean section			0.12
No	54 (85.7)	173 (91.5)	
Yes	4 (6.3)	10 (5.3)	
Undetermined	6 (9.5)	6 (3.2)	
History of abortion			0.85
Yes	17 (27)	58 (30.7)	
No	44 (69.8)	125 (66.1)	
Unknown	2 (3.2)	6 (3.2)	
History of Maternal tobacco consumption			0.55
Yes	0 (0.0)	2 (1.1)	
No	61 (96.8)	177 (93.7)	
Unknown	2 (3.2)	10 (5.3)	

% percentage, *High Blood Pressure

(81.1% vs. 15.3%), and with birth weight less than 2000 g (21.4% vs. 9.0%) (Table 3).

With regards to the controls, the risk of AP was insignificantly increased in teenagers mothers (11.1% vs. 6.9%; OR: 1.66; 95% CI: 0.6 - 4.3; P = 0.2981) and housewives (47.6 vs. 37.6%; OR: 1.40; 95%CI: 0.7 - 2.5; P=0.266) (Table 1 and 4).

Discussion

The past history of abruption placenta was reported only in 1 parturient in this study. Risk for Abruption placenta was reported in about 0.5% of all deliveries, but the risk was reported as higher in women who have had abruption once or twice 17 % and 25 % respectively [7].

Studies revealed that, hypertension complicates itself by the AP in up to 11.6% [5,8]. In Uganda hypertension was associated with 56.8-fold increased risk for abruption placenta [9]. However in this study, only one patient presented a high blood pressure on admission.

The increased proportion of abruption placenta in housewives pregnant women is in agreement with findings from Uganda (East Africa), where the low socio-economic status was associated with a 10.5-fold increased risk for severe abruption placenta [9]. Regarding the housewife status of the patients, AP could be in relation with an important physical activity including the domestic works; unfortunately these aspects were not investigated in this study. Other risk factors for abruption placenta reported by others including previous history of stillbirth, previous delivery by caesarean section, non attendance of antenatal care, recurrent vaginal bbleeding, and delivery of

male babies were not analysed in the present study [6,9]. Even if we don't know entirely about AP, while waiting to know more on the tie between the placenta abruption, adolescence and housewife status, we should use the available information for counseling of the community.

At admission, AP was presenting with only per vaginal bleeding (73%) or associated with amniotic fluid (12.7%), and was similar to report from other studies [3]. Recourse to

Table 3: Distribution of the study population according to the characteristics of indexed pregnancy.

Characteristics	Placenta abruption		P-value
	Case	Control	
	N = 63 N (%)	N = 189 N (%)	
Age of pregnancy at delivery (weeks)			<0.001
28 - 32	2 (3.5)	3 (1.8)	
33 - 36	21 (33.3)	17 (8.9)	
37 - 40	35 (55.5)	134 (70.8)	
40-42	3 (4.7)	35 (18.5)	
Undetermined	7 (6.3)	0 (0.0)	
Mode of delivery			<0.001**
Cesarean section	51 (81.1)	29 (15.3)	
Vaginal non instrumental	11 (17.4)	157 (83.7)	
Vaginal with forceps	1 (1.5)	1 (0.5)	
Vaginal with sucker	0 (0.0)	1 (0.5)	
Blood transfusion			<0.001**
No	26 (48.4)	161 (85.1)	
Yes	30 (41.9)	0 (0.0)	
Undetermined	7 (9.7)	28 (3.0)	
Antenatal consultations done			0.28
0	1 (1.6)	3 (1.6)	
1 - 3	17 (27)	56 (29.6)	
4+	22 (34.9)	43 (22.8)	
Not Specified	23 (36.51)	87 (46.0)	
Clinical signs on admission			<0.001**
Bleeding	46 (73.0)	4 (2.1)	
Uterine contractions	7 (11.1)	149 (78.8)	
HBP*	1 (1.6)	17 (9.0)	
Blood + Amniotic fluid	8 (12.7)	1(0.5)	
Choc	1 (1.6)	18 (9.5)	
Recourse to ultrasound for diagnosis			
Yes	30 (47.6)	-	
Others	33 (52.4)	-	
Appar at the first minute			
0	29 (46.0)	8 (4.2)	
1 - 6	11 (17.5)	34 (18.0)	
7 - 10	23 (36.5)	147 (77.8)	
Birth weight			0.06
700 - 999	1 (1.6)	1 (0.5)	
1000 - 1499	2 (2.3)	2 (1.1)	
1500 - 1999	11 (17.5)	14 (7.4)	
2000 - 2499	45 (71.4)	149 (78.8)	
2500 - 3999	0 (0.0)	10 (5.3)	
4000 - 5000	4 (6.3)	13 (6.9)	
Undetermined	7 (9.7)	28 (3.0)	

% percentage, *High Blood Pressure, **Fisher

Table 4: Placenta abruption risk according to potential risk factors.

Potential risk factors	Study Participants	Abruption placenta		Crude odds ratio (OR, 95% CI)	P-value
	N	n	%		
Teenage					0.2981
No	229	56	24.5	1 ^c	
Yes	20	7	35.0	1.66 (0.6 - 4.3)	
Housewife					0.266
No	117	27	23.1	1 ^c	
Yes	107	30	29.7	1.40 (0.7 - 2.5)	

1^c Reference category

Ultrasound for diagnosis was reported among 43% of patients with AP.

A pregnancy with an age of 22 weeks at least, a vaginal bleeding and abdominal pains like contractures is enough for the diagnosis of AP. Therefore, the use rate of Ultrasound reported here seems too much as the recourse to this exam could delay the treatment and increase the maternal and fetal complications.

Caesarean section was the most frequent mode of delivery in cases of placenta abruption (81%) Higher than the 30.2% reported in Pakistan [4]. Very few deliveries were performed vaginally without instruments (17.4%). Caesarean delivery is better option as this mode of delivery reduces the perinatal death rate by 20 to 50% in a case of a live fetus [1].

No maternal death was identified; however some studies reported maternal death up to 3% [5,6]. In the study from Togo, case fatality rate was higher in case of vaginal delivery compared to caesarean delivery (3.63 vs. 1.98%) [1].

We found several hematological complications including acute anemia and two cases of deep intra-venous thrombosis. This observation justified the blood transfusion with full blood and additional frozen plasma or not for 41.9% of patients. One case of emergency hysterectomy was performed for associated uterine atony. The cesarean section and the blood transfusion used could explain the successful completed life saving among the mothers.

Compared to controls, women with AP were more likely to deliver a stillbirth (46% vs. 4.2%). The heterogeneity in perinatal outcome among abruption and non-abruption births is coherent to the report from US were after analysis of over 26 million singleton births (1995-2002), authors found risks of mortality among abruption and non-abruption births at 10.27% and 0.62% of births, respectively [10].

The stillbirth rate observed in the present study is less than the findings of 65% reported in Pakistan and 75.45% reported in Togo (West Africa) [3,4,6]. Stillbirth could certainly be due by the possible three delay as stated by the WHO including delay for patient to decided to come to the facility at the onset of bleeding, delay to arrive at the facility, but also the delay on administer the proper treatment. Prospective multicentre studies, and moreover clinical audits are necessary for better understanding of these findings.

CONCLUSION

Women with AP were more likely to deliver a stillbirth (46% vs. 4.2%). No maternal death was recorded. Insignificant

risk factor for AP including housewife and teenagers as found in this study justify the need to continue more quantitative and qualitative studies to understand more about the epidemiology of AP in Cameroon. However, complete emergency obstetric care including timely caesarean and blood transfusion should be encouraged.

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