Patient Characteristics and feto-maternal Outcomes Among Cases Of Placenta Previa and Accidental Hemorrhage

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Abstract

Introduction: Third trimester bleeding is one of the major obstetric emergencies, which contribute greatly to maternal and fetal morbidity and mortality. It is defined as bleeding from or into the genital tract prior to delivery of the baby anytime from 20 weeks gestation, in some developed countries or 24 weeks gestation, in others or 28 weeks in countries with low resource settings thus lacking adequate neonatal support incubators.

The aim of this study: The study aimed to elucidate the outcomes with the associated morbidities, which will help define the magnitude of the problem posed by antepartum hemorrhage in order to better the management measures available to promptly tackle and alleviate this condition.

Patients & Methods: This study was prospective observational study conducted in Department of Obstetrics and Gynecology, Faculty of Medicine, Fayoum University Hospital and El-Sahel Teaching Hospital. All cases of antepartum hemorrhage admitted to emergency unit at maternity hospital after the age of 28 week of gestation during the period from (1st of August 2019 to end of November 2020) were included in this study, meeting the inclusion and exclusion criterion.

Results: Total number of patients who were admitted to obstetric department with APH during the study period was 120 case of them 25 cases were elective and all of them were placenta previa cases and 95 cases were emergency. 67 cases (55.83%) with placenta previa (25 elective and 42 emergency) & 44 (36.636%) with accidental hemorrhage (all are emergency or urgent cases), 9 (7.5%) due to other causes. Maternal outcome in PP include Increased numbers of CS 67 case (100%), Increased number of units of blood transfusion (1-18) unit with mean 4.31 ± 3.27, Hysterectomy 21 case (31.3 %), Shock 29 case (43.3 %), Urinary injury either bladder or ureteric injury 5 cases (7.5 %) (4cases bladder injury and 1 case Ureteric injury) all of them were placenta percreta, ICU admission 14 case (20.9 %), postpartum hemorrhage occurred in 6 cases and maternal mortality one case (1.5%). While maternal out come in accidental hemorrhage patients was numbers of CS delivery

was 35 cases and 9 cases delivered vaginally, number of units of blood transfusion (1-18) unit with mean 3.57 ± 3.08, Hysterectomy 3 cases (6.8%), Shock 22 case (50%),Conclusion Previous CS was found to be the most important risk factor for Placenta praevia and accreta Pre-eclampsia& previous abruption were the most important risk factors for abruption. Fetal morbidities associated with both placenta previa & abruption were prematurity, low birth weight, low Apgar score, admission to NICU.

Keywords: Placenta Previa , APH, Accidentalhemorrhage, perinatal mortality, maternal mortality.

Introduction

Third trimester bleedingor antepartum hemorrhage is one of the major obstetric emergencies, which contribute greatly to maternal and fetal morbidity and mortality. It is defined as bleeding from or in to the genital tract prior to delivery of the baby anytime from 20 weeks gestation, in some developed countries or 24 weeks gestation, in others or 28 weeks in countries with low resource settings thus lacking adequate neonatal support incubators.(1)

APH as courses can be grouped into obstetric (bloody show, placenta praevia, abruption placenta, vasa praevia, uterine rupture, disseminated intravascular coagulation) and non-obstetric (cervicitis, cervical cancer, cervical polyps, cervical eversion, vaginitis, vaginal laceration). (1) From these, APH is caused majorly by placenta praevia and abruptio placenta and occasionally some local causes however, the incidence of APH is much more than the combined incidence of the above. (1)

It is recognized that the amount of blood lost is often underestimated and that the amount of blood coming from the introitus may not represent the total blood lost (for example in a concealed placental abruption). It is important therefore, when estimating the blood loss, to assess for signs of clinical shock. The presence of fetal compromise or fetal demise is an important indicator of volume depletion (2).

The following definitions have been used (3):

1. Spotting–staining, streaking or blood spotting noted on underwear or sanitary protection
2. Minor haemorrhage – blood loss less than 50 ml that has settled
3. Major haemorrhage – blood loss of 50–1000 ml, with no signs of clinical shock
4. Massive haemorrhage – blood loss greater than 1000 ml and/or signs of clinical shock

It is a major contributor to maternal and perinatal morbidity and mortality with several possible consequences or sequelae. Patients who experience APH are generally at risk of oligohydramnios, premature rupture of membranes, preterm labor, labor induction, cesarean delivery, puerperal pyrexia, sepsis, shock, disseminated intravascular coagulation, anemia, retained placenta, postpartum haemorrhage. Also,include small for gestational age, congenital anomalies, intrauterine growth restriction, intrauterine fetal death, birth asphyxia and early neonatal mortality. (1)

Therefore, authors proposed to conduct a prospective study, to evaluate the consequences of antepartum haemorrhage, their maternal and perinatal outcome, so as to outline the important causes and proper management of patient in order to improve both maternal and perinatal morbidity and mortality and specify as to what areas required improvement in a developing countries. The data collected from this prospective study will be used to gauge the severity of this problem so that management and preventive protocol could be established to avert possible pregnancy outcomes.

The aim of this study

The study aimed to elucidate the outcomes with the associated morbidities, which will help define the magnitude of the problem posed by antepartum haemorrhage in order to better the management measures available to promptly tackle and alleviate this condition. The scope of the study is todetermine and compare fetal & maternal morbidity and mortality among cases of placenta previa and accidental hemorrhage.

Patients & Methods

This study was prospective observational study conducted in Department of Obstetrics and Gynecology, Faculty of Medicine, Fayoum University Hospital and El-Sahel Teaching Hospital. All cases of antepartum hemorrhage admitted to emergency unit at maternity hospital after the age of 28 week of gestation during the period from (1st of August 2019 to end of November 2020) were included in this study.

Inclusion criteria:

All cases of ante partum hemorrhage after 28 week of gestation due to either placenta previa or accidental hemorrhage and cases of placenta previa without antepartum hemorrhage after 28wks of gestation (after establishment of diagnosis both clinically & or by ultrasound).

Exclusion criteria:

1. Cases presented with vaginal bleeding before 28 week of gestation.
2. Cases presented with vaginal bleeding after 28 week of gestation due to other causes rather than placenta previa or accidental (Vasa previa-cervicitis- cervical neoplasm- cervical polyp-rupture uterus).
3. Cases associated with hemorrhagic diseases like hemophilia and ITP and patients on full anticoagulation therapy like metallic valve replacement, patient with DVT in the pregnancy and thrompophilic patient on therapeutic dose of anti coagulation.

Data analysis in the form of: Estimation of fetal &maternal mortality & morbidity among cases of placenta previa & accidental hemorrhage in the following:

1. Comparison between patients of Accidental Hemorrhage and placenta previa concerning:

a- mode of delivery

b- Time of delivery concerning gestational age.

c- Duration of delivery.

d- Intra operative blood loss by visual estimation method.

e- Amount of blood transfusion

f- Postpartum hemorrhage if occurred.

g- ICU admission and its causes.

h- Urinary tract injury if occurred.

2. I-Hysterectomy if done
   2.Comparison between mortality rates of both causes of APH.
3. Comparison between fetal outcome of both causes of APH by using:

a- gestational age at time of delivery.

b- APGAR score at 1 and 5 min

c- Birth weight.

d- NICU admission.

e- Rate of stillbirth or IUFD.

4. Identification of risk factor of both causes.
5. Determining avoidable factors contributing to mortality & morbidity between both cases.
6. Evaluating the standard of care (antenatal care, ante-partum or post-partum). All cases of APH were observed as regard history, physical examination and relevant laboratory investigations as subsequently discussed.

History taking

Clinical examination

Investigations:

- Blood group & Rh type.
- Complete blood picture (hemoglobin level, hematocrit, platelets count).
- Coagulation profile (prothrombin time,

prothrombin concentration and partial thromboplastin time).
- Liver function test (liver transaminase level, serum albumin level).
- Kidney function test (creatinine level, urea, and serum uric acid).
- Urinary albumin.
- Obstetric ultrasonography to assess fetal presentation, gestational age, AFI, placental localization, adherence of placenta to uterus and its degree (accreta, increate, percreta), presence or absence of retroplacental hematoma and its size, fetal congenital malformation and whether living or dead.
- Fetal monitoring test in the form of non-stress test.

Delivery circumstances:

1. Mode of delivery : vaginal or CS
2. Timing of delivery :elective or urgent
3. Intra operative findings: Couvelaire uterue in cases of abruption & placental site & adherence to uterine wall in cases of placenta previa & its type.
4. Amount of blood loss intra-operative,the blood loss was measured by recording the fluid in the suction apparatus before and after placental separation, keeping in mind that most fluid in the apparatus before fetal extraction was amniotic fluid and therefore was deducted from the total. The net amount of blood in the suction apparatus was added to the volume of blood collected from blood-soaked sterilized towels used after fetal extraction, and the under buttocks drapes placed under the patient. The volume of blood collected in soaked materials was calculated according to the following equation (WET Item Gram Weight DRY Item Gram Weight ¼ milliliters of blood within the item
5. Maneuvers done intraoperative (devascularization, uterine artery ligation, internal iliac artery ligation, internal iliac ballooning, compression of placental bed , hysterectomy)

Estimation of maternal outcome:

1. Amount of blood transfusion
2. Hysterectomy
3. Pulmonary edema
4. Renal failure
5. DIC
6. Postpartum haemorghe
7. Urinary tract injury
8. Maternal mortality & its cause

Estimation of fetal outcome:

1. Timing of delivery (term or preterm)
2. Fetal birth weight
3. APGAR score (at 1 minute & at 5 minutes)
4. Congenital fetal malformation
5. Intra uterine growth restriction
6. Neonatal ICU admission
7. Still birth, intra uterine fetal death, early neonatal death

Statistical Analysis:

All data were analyzed using SPSS 21.0 for windows (SPSS Inc., Chicago, IL, USA) &MedCalc 13 for windows (MedCalc Software bvba).Frequency tables were drawn and Chi square analysis was used for categorical variables and p-value ofp-value of<0.5 was considered significant.

Results

Table (1) Comparison between Group I (placenta previa) patients & Group II (accidental hemorrhage) patients as regard sociodemographic data.

	Group I (Placenta previa) (n=67)		Group II (Accidental hemorrhage) (n=44)		Test	p
	No	%	No	%		
Age (years)					t	
Mean ± SD	30.03 ± 4.74		28.43 ± 5.92		1.572	0.119 (NS)
Median (Range)	30 (21 – 39)		28 (18 – 40)			
Gravidity					MW	
Mean ± SD	3.66 ± 1.21		3.11 ± 1.85		1192	0.082 (NS)
Median (Range)	4 (1 – 8)		3 (1 – 8)			
Parity					MW	
Mean ± SD	2.3 ± 1.01		1.68 ± 1.55		1079.5	0.015 (S)
Median (Range)	2 (0 – 5)		1 (0 – 5)			
Abortion					MW	
Mean ± SD	0.37 ± 0.77		0.45 ± 0.73		1351	0.350 (NS)
Median (Range)	0 (0 – 4)		0 (0 – 3)			
Antenatal care					χ^2	
No	28		41.8%		2.404	0.121 (NS)
Yes	39		58.2%			

Table (2) Comparison between Group I (placenta previa) patients & Group II (accidental hemorrhage) patients as regard predisposing factors

	Group I (Placenta previa) (n=67)		Group II (Accidental hemorrhage) (n=44)		Test	p
	No	%	No	%		
Previous CS					χ^2	
No	14	20.9 %	36	81.8 %	37.398	<0.001 (HS)
Yes	53	79.1 %	8	18.2 %		
1	13	24.5 %	4	50 %	9.354	0.052 (NS)
2	21	39.6 %	2	25 %		
3	15	28.3 %	0	0 %		
4	2	3.7 %	2	25 %		
5	2	3.7 %	0	0 %		
Previous abortion					χ^2	
No	50	74.6 %	29	65.9 %	0.934	0.321 (NS)
Yes	17	25.4 %	15	34.1 %		
					MW	
Mean ± SD	0.37 ± 0.77		0.45 ± 0.73		1351	0.350 (NS)
Median (Range)	0 (0 – 4)		0 (0 – 3)			

In vitro fertilization					χ^2	
No	65	97 %	44	100 %	1.338	0.247 (NS)
Yes	2	3 %	0	0 %		
Previous placenta previa					χ^2	
No	61	91.1 %	44	100 %	2.598	0.107 (NS)
Yes	6	8.9 %	0	0 %		
Previous accidental hemorrhage					χ^2	
No	67	100 %	29	65.9 %	26.410	<0.001 (HS)
Yes	0	0 %	15	34.1 %		
Presence of PET & HTN					χ^2	
No	67	100 %	18	40.9 %	51.701	<0.001 (HS)
Yes	0	0 %	26	59.1 %		
Trauma					χ^2	
No	67	100 %	40	90.9 %	6.319	0.012 (S)
Yes	0	0 %	4	9.1 %		

Table (3) Clinical, Ultrasound & intraoperative findings in studied patients

	No	**%**
Ultrasound findings in Group I (Placenta previa) patients (n=67)		
Type of placenta previa		
Marginalis	4	6 %
Incomplete centralis	5	7.5 %
Complete centralis	58	86.5 %
Adhesion		
Not accrete	32	47.8 %
Accreta	35	52.2 %
Degree of adhesion		
Accreta	24	68.5 %
Percreta	6	17.1 %
Increta	5	14.3 %
Intra-operative finding in Group I (placenta previa) patients (n=67)		
Adhesion		
Not accrete	43	64.2 %
Accreta	24	35.8 %
Degree of adhesion		
Accreta	14	58.3 %
Percreta	6	25 %
Increta	4	16.7 %

Ultrasound findings in Group II (Accidental hemorrhage) patients (n=44)		
Retro placental hematoma		
No	10	22.7 %
Yes	34	77.3 %
Mean ± SD	76.42 ± 57.33	
Median (Range)	61.5 (8 – 255)	
Type of accidental hemorrhage		
Revealed	9	20.5 %
Concealed	12	27.3 %
Mixed	23	52.3 %

Table (4) Comparison between Ultrasound findings & intraoperative findings in group I (placenta previa) patients

		Intraoperative findings		χ^2	P
		Accreta (n=24)	Not accreta (n=43)		
Ultrasound findings	Accreta (n=35)	20 (30 %)	15 (22.3 %)	5.263	0.021 (S)
	Not accreta (n=32)	4 (6 %)	28 (41.7 %)		
Sensitivity	Specificity	PPV		NPV	Accuracy
83.33 % (62.62-95.26)	65.12 % (49.07-78.99)	57.14 % (39.35-73.68)		87.50 % (71.01-96.49)	69.71 % (53.92-84.81)

Table (5) Comparison between Group I (placenta previa) patients & Group II (accidental hemorrhage) patients as regard laboratory findings

	Group I (Placenta previa) (n=67)	Group II (Accidental hemorrhage) (n=44)	Test	p
Hemoglobin level (g/dl)			t	
Mean ± SD	9.24 ± 1.52	8.40 ± 1.74	2.659	0.009 (S)
Median (Range)	9.5 (5 – 12)	8.4 (5 – 13)		
Platelet count ($\times 10^3/mm^3$)				
Mean ± SD	---	160.93 ± 72.88	---	---
Median (Range)	---	189 (22 – 273)	---	---
Serum creatinine (mg/dl)				
Mean ± SD	---	1.40 ± 1.28	---	---
Median (Range)	---	1 (1 – 8)	---	---
INR				
Mean ± SD	---	1.53 ± 0.84	---	---
Median (Range)	---	1.1 (0.7 – 5)	---	---

Table (6) Comparison between Group I (placenta previa) patients & Group II (accidental hemorrhage) patients as regard maternal outcome

	Group I (Placenta previa) (n=67)		Group II (Accidental hemorrhage) (n=44)		Test	p
	No	%	No	%		
Mode of delivery					χ^2	
Vaginal delivery	0	0 %	13	29.5 %	22.421	<0.001 (HS)
CS	67	100 %	31	70.5 %		
Indication of delivery					χ^2	
Elective	18	26.9 %	0	0 %	12.201	<0.001 (HS)
Urgent	49	73.1 %	44	100 %		
Amount of blood transfusion (units)					**MW**	
Mean ± SD	4.31 ± 3.27		3.57 ± 3.08		1180.5	0.073 (NS)
Median (Range)	4 (1 – 18)		3 (0 – 15)			
Maternal morbidity					χ^2	
Hysterectomy	21	31.3 %	3	6.8 %	9.426	0.002 (HS)
Shock	29	43.3 %	22	50 %	40.482	0.487 (NS)
ICU admission	14	20.9 %	10	22.7 %	0.053	0.819 (NS)
DIC	0	0 %	17	38.6 %	27.662	<0.001 (HS)
Renal failure	0	0 %	7	15.9 %	8.843	0.002 (HS)
Pulmonary edema	0	0 %	4	9.1 %	3.973	0.046 (S)
Urinary injury	5	7.5 %	0	0 %	1.922	0.165 (NS)
Maternal mortality					χ^2	
No	66	98.5 %	42	95.5 %	0.941	0.332 (NS)
Yes	1	1.5 %	2	4.5 %		

Table (7) Comparison between Group I (placenta previa) patients & Group II (accidental hemorrhage) patients as regard fetal outcome.

	Group I (Placenta previa) (n=67)		Group II (Accidental hemorrhage) (n=44)		Test	p
	No	%	No	%	χ^2	
Congenital fetal malformation						
No	65	97%	44	100 %	0.182	0.669 (NS)
Yes	2	3%	0	0 %		
Intrauterine fetal death					χ^2	
No	67	100 %	24	54.5 %	34.134	<0.001 (HS)
Yes	0	0 %	20	45.5 %		
Abnormal presentation					χ^2	
No	45	67.2 %	40	90.9 %	7.077	0.007 (S)
Yes	22	32.8 %	4	9.1 %		
Preterm labor					χ^2	
No	36	53.7 %	11	26.2 %	7.984	0.005 (S)
Yes	31	46.3 %	31	73.80%		
Gestational age (weeks)					**MW**	
Mean ± SD	36.01 ± 2.26		34.57 ± 2.85		1001	0.004 (HS)
Median (Range)	37 (30 – 40)		35 (28 – 40)			
Birth weight (gm)					**MW**	
Mean ± SD	2894.03 ± 622.77		2500 ± 641.33		496	0.005 (S)
Median (Range)	3000 (1200 – 3700)		2600 (1200 – 3500)			
Neonatal ICU admission					χ^2	
No	44	65.7 %	11	45.8 %	2.138	0.143 (NS)
Yes	23	34.3 %	13	54.2 %		
Neonatal death					χ^2	
No	64	95.5 %	4	100 %	0.151	0.698 (NS)
Yes	3	4.5 %	0	0 %		

Discussion

In this study cases of placenta previa were more than cases of accidental & this differ from other studies that showed that Causes of APH include placenta previa and abruptio placentae with almost equal contribution (4), while according to (5) one third only of all antepartum hemorrhage occurs due to placenta Previa. This difference can be explained in that, our hospital is a tertiarycenter where almost all cases of placenta previa even low lie placenta when diagnosed outside hospital are referred, while some of cases of mild abruption presented in labor with slight bleeding that may be mistaken as heavy show so managed outside hospital without referral.

Majority of patients in this study were in the age group (20-30) years for both placentaprevia andabruption. This is in contrast to their traditional association with advanced maternal age (6)

In a comparison of maternal risk factors for placenta previa and placental abruption, abruption is more likely to be related to condi-

tions occurring during pregnancy and placenta previa is more likely to be related to conditions existing prior to pregnancy (6).

In this study risk factors associated with placenta previa were mainly : previous delivery by CS, 53 case (79.1 %) & according to number of previous deliveries by CS frequency was as following : One CS 13 case(24.5%), 2 CS 21 case(39.6%), 3CS 15 case (28.3%), 4 CS 2 cases (3.7%), 5 CS 2 cases(3.7%). These findings are consistent with (5) who suggested that incidence of placenta praevia is increasing due to increased rate of Caesarian section & The risks increase 1.5- to 5-fold with a history of cesarean delivery. A meta-analysis showed that the rate of placenta previa increases with increasing numbers of cesarean deliveries, with a rate of 1% after 1 cesarean delivery, 2.8% after 3 cesarean deliveries, and as high as 3.7% after 5 cesarean deliveries (7).

In this study risk factors associated with abruption were previous abruption 15 case (34.1 %), presence of PET or gestationalHTN 26 case (59.1%), history of trauma 4 cases (9.1%). These results differ from (8) who reported that abruption recurs in 19–25% of women who have had two previous pregnancies complicated by abruption.

In this study there were 4 cases (6%) of placenta previa marginalis & 5 cases (7.5%) of placenta previa incomplete centralis &58 cases(86.5%) of placenta previa complete centralis . this differ with (9) who reported, the frequency of complete placenta previa ranges from 20 to 45%, partial placenta previa accounts for approximately 30%, and marginal placenta previa accounts for the remaining 25-50%. this increased frequency of complete centralis in this study can be explained that we are tertiary center where risky cases can be referred while less risky cases as marginalis or incomplete centralis can be managed at other hospitals.

In this study when comparing results of US &intra operative findings US was a good negative test as it has sensitivity 83.33 %, specificity 65.12 %, positive predictive value 57.14 %, negative predictive value 87.50 %, accuracy 69.71 %. These results are close to (10) with a reported sensitivity of 77%–87%, specificity of 96%–98%, a positive predictive value of 65%–93%, and a negative predictive value of 98%. In addition, a recent Cochrane review reported a sensitivity and specificity of 90.30% and 93.81%, respectively(11). This difference is due to the fact that US is operator dependent so there were definite false positives and negatives in this study as well as others.

Maternal morbidities due to placenta previa in this study include increased number of deliveries by CS 67 case (100%), number of units of blood transfusion (1-18) unit with a mean 4.31±3.27, hysterectomy 21 case (31.3%), Shock 29 case (43.3%), ICU admission 14 case (20.9%), Urinary injury, either bladder or ureteric injury 5 cases(7.5%) all of them were percreta .

Maternal morbidities due to abruption in this study include number of CS 31 case (70.45%), number of units of blood transfusion (1-18) with a mean 3.57 ± 3.08, hysterectomy 3 cases (6.8 %), shock 22 case(50%), DIC 17 case (38.6 %), renal failure 7 cases (15.9%), Pulmonary edema 4 cases (9.1%), ICU admission 10 cases (22.7%).

So in this study maternal out come with abruption more severe than previa as regarding DIC, pulmonary edema, renal failure, ICU admission, shock while placenta previa associated with increased rate of emergent hysterectomy, urinary tract injury. These results are consistent with results found in another local study (12). But these results not consistent with the results of another study made by (13) in which the median PRBCs transfusion required was 6 units (mean 7.7 units, Cesarean hysterectomy was done in 24 patients (18%), Forty patients (32%) were admitted to the maternity high-dependency unit and 12 (9.8%) were admitted to the intensive care unit. Urinary tract injuries occurred in 12 patients (9.8%). This

difference can be explained that rate of hysterectomy in our study is more than other studies due to failure of trials of devascularization of uterus &compression at placental site bleeding in cases of accreta ,less incidence of urinary injury due to less incidence of percreta in our study(5 cases only).

Despite increased morbidities, mortality was not high in this study; this is attributed to prompt blood products replacement, timely ventilatory support and intensive care management.

All cases of PP in this study delivered by CS, while in abruption 13case (29.5 %) by VD & 31 case (70.5) by CS, despite that 24 case (54.5%) of abruption presented in labor, only 9 of them delivered vaginally & 15 of them delivered by CS, while other studies showed relatively lower CS rate (32.6%) in cases of accidental (14) and 27% (12). This is in significant contrast to CS rates of 91% by Tikanen et al., (8).

This difference in this study can be explained by unstable general condition of mother on admission (shock), presence of fetal distress, abnormal presentation of baby, previous deliveries were by CS all these causes necessitating termination by CS , also high CS rates in PP are attributable to greater number of PP major (86.5%) in this study .

Fetal morbidities due to placenta previa& accidental hemorrhage in this study include congenital fetal malformations: 2 cases only were observed during this study& both cases were in association with placenta previa one of them was cardiac anomalies & other was bilateral renal agenesis &cardiac anomalies. Preterm delivery, in cases of placenta previa 31 case (46.3 %) with mean gestational age 36.01±2.26 & mean birth weight 2894.03 ± 622.77 gm in contrast to 31 case (73.8 %) in cases of abruption with mean gestational age 34.57±2.85 & mean birth weight 2500 ± 641.33 .Neonatal ICU admission: 23 case (34.3 %) for placenta previa in contrast to 23 case (54.2 %) in case of abruption.

Other studies showed that rate of fetal abnormality is doubled in female with placenta previa; however, the mechanism of the association is not known (15). While other studies showed that Lethal congenital anomaly rate was not significantly different, 1.37% (n=3) in abruption versus 1.39% (n=2) in placenta previa (16).

As regarding fetal mortality in this study abruption was associated with 20 case (45.5 %) of intrauterine fetal death due to severe degrees of abruption causing impaired placental circulation, while in cases of placenta previa fetal losses occurred in 3 cases only (4.5 %) which occurred during early neonatal period due to respiratory distress from prematurity.

So, in this study fetal outcome in accidental is worse than placenta previa this is explained by most cases of accidental in this study are of severe type in which placental separation is severe causing sudden IUFD , most cases are terminated prematurely due to severe bleeding with low birth weight & low Apgar score. Similarly significantly higher perinatal mortality in abruption as compared to placenta previa is consistent with result of a one-year study from Lahore (17).

In this study there were some factors that may worsen maternal & fetal outcome in cases of placenta previa such as presence or absence of placenta accreta . In this study Fetal outcome is better in placentaprevia accreta than placenta previa withoutaccreta in contrast to maternal outcome, which is better in placenta previa withoutaccreta than placenta previa accreta.

Maternal outcome associated with accreta are hysterectomy (87.5%), shock(45.8%), ICU admission (54.2%), urinary injury (20.8%), blood transfusion with mean of (6.79 ± 4.16) maternal mortality (4.2%), in contrast to placenta previa without accreta, hysterectomy (0%), shock (41.9%), ICU admission (2.3%), urinary injury (0 %), blood transfusion with mean of (2.93 ±1.37) maternal mortality (0%).

Fetal outcome associated with pp without accreta include prematurity (58.1 %), mean birth weight 2739.53 ± 650.32, mean gestational age 35.53±2.54 , neonatal ICU (34.9 %), congenital fetal malformation (4.7 %), neonatal death (7 %), in contrast to placenta accreta, prematurity (25 %), mean birth weight 3170.83 ± 464.83, mean gestational age 36.88±1.26, neonatal ICU (33.3 %), congenital fatal malformation (0%), neonatal death (0%).

These results are consistent with other studies that indicates that maternal morbidity is significantly increased if PP is complicated by accreta which is already described in the literature (18), but in relation to fetal outcome there was no sufficient data about the difference in between both types but one study was done at Department of Obstetrics and Gynecology, Neonatal Intensive Care Unit, King Abdul-Aziz Specialist Hospital, Taif, Kingdom of Saudi Arabia from December 2009 to December 2012 which revealed no significant difference in neonatal outcome in placenta previa with or without accreta .

This difference in this study may be explained that in cases of accreta most cases are identified pre operatively (US over estimate rate of accreta), no or minimal to mild attacks of vaginal bleeding so most of them presented at stable general condition allowing them to be opened electively (50% of accreta are opened electively at or near term in contrast to 14% of placenta previa without accreta) after administration of corticosteroids so improving neonatal outcome, while maternal outcome is worse in accreta due to trials of manual separation of placenta aiming to conserve uterus& delayed decision of hysterectomy due to issues of fertility especially that most of patients of placenta previa in this study are of middle age resulting in severe bleeding from placental bed with consequent more blood transfusion, DIC & finally failed trials of serving uterus ending in hysterectomy. While in previa without accreta most of them presented by severe attack of vaginal bleeding necessitating termination of pregnancy pre- maturely.

Also, In this study both maternal & fetal outcome is better if placenta previa opened electively as following: decreased frequency of maternal shock (11.1 % VS 55.1 %), decreased ICU admission (14.3 % VS 38.9 %), decreased frequency of preterm delivery (5.6 % VS 61.2 %), Increased mean gestational age at time of delivery (37.39±0.60 VS 35.51 ± 2.43), Increased mean birth weight (3266.67 ± 295.05 gm VS 2757.14 ± 656.69 gm), While in contrary, increased frequency of hysterectomy (66.7 VS 18.4 %).This can be explained that urgent cases were admitted with severe bleeding, shock necessating termination of pregnancy prematurely while elective cases mostly are of accreta type that rarely present with bleeding, most of them receive corticosteroids preoperatively. But, being accreta most elective cases undergo hysterectomy (66.7%). These results are consistent with results of (19) greater blood loss &complications in emergent cesarean hysterectomy versus planned cesarean hysterectomy.

Also, presence or absence of antenatal care in cases of abruption may affect out come as maternal & fetal outcome is better in presence of ANC. decreased number of CS (52.6 VS 84 %), decreased amount of blood transfusion with a range of (0-4) & mean of 1.68 ± 1.0 VS range of (1-15) & mean of 5.0 ± 3.36, decreased frequency of Shock (10.5% VS 80%), decreased ICU admission (0% VS 40%), decreased DIC (10.5% VS 60%), decreased Renal failure (0% VS 28%), decreased frequency of IUFD (21.1 % VS 64%), Increased mean gestational age at labor (35.93±2.70 VS 33.9 ± 2.47)

Conclusion

- Previous CS was found to be the most important risk factor for Placenta Previa and accreta.
- Pre-eclampsia& previous abruption were the most important risk factors for abruption.

- Fetal morbidities associated with both placenta previa & abruption were prematurity, low birth weight, low Apgar score, admission to NICU.
- Both placenta previa & abruption were associated with perinatal mortality but more with cases of abruption & mostly occur due to intrauterine fetal death in abruption in contrast to early neonatal death in placenta previa due to respiratory distress from prematurity.
- Maternal morbidities specific to placenta previa are hysterectomy & urinary tract injury while abruption associated with DIC, pulmonaryedema, renalimpairment, ICU admission.

Recommendation

- Trying to reduce number of unjustified CS &increase number of vaginal deliveries after CS when it is available &safe.
- Programs of adequate ANC should be targeted for patients with pre eclampsia & previous history of abruption to early detect and prevent their progression to severe cases.
- Elective opening of placenta previa at 37 or 38 week is better than leaving it until become urgent.
- Administration of corticosteroids is better to avoid neonatal losses from respiratory distress.
- Not to delay in decision of hysterectomy if needed to avoid massive post-partum bleeding & subsequent mortality.

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