Incidence of Abruption and Placenta Previa in Pregnant with Previous Caesarian Section

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Abstract

Caesarean section is a surgical procedure in which the incision made through a women's abdomen (laparotomy) and uterus (hysterectomy) to deliver one or more babies. In each previous c/s the risk of placenta previa and abruption increase. The aim of this study is to find out the associated between the previous caesarean section and placenta previa and abruption in this pregnancy. A retrospective study was carried out during the period between 1st July 2018 and 20th august 2019 in Al-Zahraa Teaching Hospital. During the period of study, 119 pregnant women with history of previous scar presented to the hospital for vaginal delivery or c/s, 70 of these patients diagnosed that they have placenta previa and as have placenta abruption by ultrasound and confirmed during delivery. Another 49 patients were without complication. Pregnant women with APH due to other causes were excluded. Data were collected through detailed history. Official agreements and verbal consent of all women were taken. Statistical analysis performed by using the statistical package for social sciences and appropriate statistical test were applied.

Keywords*:Caesarean section, placenta previa, abruption, pregnants and vaginal delivery*

Introduction

Recent revised classificationof placenta previa, it classifies into true placenta previa when the placenta tissue covers the internal cervical, and low-lying placenta when the placental lies within 2cm of the cervical but does not cover it(1).

Incidence of Placenta Previa

Placenta previa complicates approximately 3-5 per 1000 pregnancies in the world (2). The incidence is significantly more at 20 weeks about 5% and then it starts diminish until it reaches 0.5% at weeks 36 and above (3).

Placenta Abruption

Defined as premature separation from the uterus of a normally implanted placenta after 20 weeks gestational age and before the delivery of fetus(1).

Incidence of Placenta Abruption

The incidence rate of placental abruption 0.5% or 1 in 200 deliveries (10), of all antepartum hemorrhage, about one-third can be due to placental abruption,40% - 60% of placental abruption occur prior to 37 weeks gestational age(1).

The recurrence rate of placental abruption was higher after severe than mild PA, after severe abruption there was two-fold recurrence riskwhereas after mild, there was no risk for recurrence (11) .

Classification of placental abruption

It classifies into three types:

1-Revealed hemorrhage

The hemorrhage occurs from the lower part of placenta and blood escapes through the cervical. In this type, the major hemorrhage is apparent externally.

2-Concealed hemorrhage

In this type, the blood accumulates between the placenta and the uterine wall.

3-Concealed and revealed of mixed hemorrhage

In this type, the hemorrhage occurs close to the placenta and is both concealed and revealed [12].

Clinical feature

Sign and symptom depend on the type of placental abruption, patient may be asymptomatic, or may present with painful vaginal bleeding, or may present with sign of shock (in concealed bleeding)[12, 10 and 14] .

Management of placental abruption

The management depend on the severity of abruption, fetal status and the gestational age.

Immediate delivery

Depend on the severity and whether the fetus alive or dead. If the fetus alive, caesarean section delivery has been shown to have a better outcome than vaginal delivery.

If the fetus is dead (20%) of case, vaginal delivery should be trained after maternal resuscitation [16], [15].

Methodology

The study setting

The data collected from the obstetrical department and labor room in al-Zahraa teaching hospital in Al-kut city. Al-kut is the center of wasit governorate.

The study design

A cross-sectional design was conducted to achieve the aim and objectives of this study. The collected cases were women with previous caesarean section admitted to the labor room, at total of (119) pregnant ladies were included during the period of study, (70) of ladies were with placenta previa or abruption, were (49) women without complication.

Sampling

Case definition

The cases were taken from patients whose age were between (18-45) years, who are pregnant in between 28-41 weeks of gestation presented with APH due to P.P and P.A

Inclusion criteria

Pregnant aged between (18-45) years, 20-41weeks of gestational age, who had second births with previous caesarean section presented with APH due to P.P and A.P females that were not having placenta previa or abruption were selection as control.

Exclusion criteria

Patients with no information on maternal demographics and behaviors during pregnancy patient without previous scar, APH not due to P.P or P.A.

Method used for diagnosis

The patient included in this study were diagnosed to have low lying placenta in their first trimester confirmed by performing transvaginal ultra sound using vaginal probe. In the third trimester, transvaginal u/s used to diagnose placenta previa.We depend mainly on the clinical presentation for the diagnosis of the placental abruption rather than transvaginal u/s.

Period of the study

The period of the collection of the data, was extended from 1 July 2018 -20 august 2019. The rest of time was for data analysis and writing up the thesis.

Collection of the data

Data were obtained from pregnant women attending the study setting for management through direct interview by the investigator himself.

In addition to collecting the basic demographic details questions were asked about the medical history, social history, gynecological history and

obstetric history to confirm the presence or absence of related risk factor.

The database included the socio-demographic information on the patients age, number of C/S, number of antenatal care visit interval between subsequent pregnancy, number of miscarriages, socio-economic status and fetal outcome.

Data Analysis

By using the statistical package for social sciences (SPSS) software for windows, version 23, IBM, USA, data of 119 pregnant women with previous c section were entered and analyzed.

Chi square test was used to assess the significance of differences in frequencies of each category.

P value equal or less than 0.05 was considered significant.

Result

In this study, 119 patient with history of previous scar presented to the labor room during the period of study,51(42.9%) of them were without PP OR PA, whereas,68(57.2%) of them presented with complication, 49(41.2%) of them were have placenta previa and 19(16%) were have placental abruption . The patient age was ranged between 18-45, 14.3% of patients aged between 18-20, 37% aged between 21-25, 23% aged between 26-30, 16.8% aged between 31-35, 7.6% aged between 36-40 and 8% aged >41. Increased maternal age >21 no associated with increase the number of placentae previa and abruption as p-value was 0.296 (not significant). Table(1) show the gestational age of the patients.

TABLE 1: Gestational Age

		Frequency	Percent
Valid	2500	1	.8
	30.00	1	.8
	31.00	1	.8
	34.00	3	2.5
	35.00	2	1.7
	36.00	23	19.3
	37.00	26	21.8
	38.00	30	25.2
	39.00	22	18.5
	40.00	7	5.9
	41.00	3	2.5
	Total	119	100.0

Increase the number of caesarean sectionsare associated with increase the risk of PP or PA, 39.1% of patients with previous one scar have placenta previa, whereas 14.5% were have placental abruption, 75% with previous two scar were have placenta previa and 25% were have placental abruptionas p-value was 0.000 (significant). TABLE (2) show the number of caesarean sections of the patients.

TABLE 2: Number of Caesarean Section

		Frequency	Percent
1		110	92.4
	2.00	8	6.7s
	4.00	1	.8
	Total	119	100.0

There is not association between the interval between subsequent pregnancy and the risk of placenta previa and abruption in next pregnancy as p-value was 0.5 (not significant). TABLE (3)show the interval between subsequent pregnancy calculated in months.

TABLE 3: Interval Between Subsequent Pregnancy in Months

		Frequency	Percent
Valid	200	2	1.7
	4.00	2	1.7
	6.00	9	7.6
	7.00	3	2.5
	8.00	11	9.2
	9.00	7	5.9
	11.00	5	4.2
	12.00	38	31.9
	18.00	5	4.2
	24.00	21	17.6
	30.00	1	.8
	36.00	10	8.4
	42.00	1	.8
	48.00	2	1.7
	60.00	2	1.7
	Total	119	100.0

Poor antenatal care visits are associated with increase the riskas p-value was 0.01(significant). TABLE (4) show the number of antenatal care visits.

TABLE 4: Number of Antenatal Care Visits

		Frequency	Percent
Valid	0	23	19.3
	< 4	61	51.3
	>= 4	35	29.4
	Total	119	100.0

The socioeconomic status of the patient has association with the risk of complicationsas p-value was 0.015 (significant). table (5) show the socioeconomic status of the patients.

TABLE 5: Socioeconomic Status

		Frequency	Percent
Valid	low	9	7.6
	medium	94	79.0
	high	16	13.4
	Total	119	100.0

TABLE 6: Patient Character

		Frequency	Percent
Valid	normal	51	42.9
	Placenta previa	49	41.2
	Placental abruption	19	16.0
	Total	119	100.0

There is significant association with the history of miscarriage and the occurrence of PP or PA in next pregnancy as p-value was 0.005 (significant).

Ethical Consideration : The study protocol was approved by the department of gynecology and obstetrics, medical college, Wasit university.

Agreement of the hospital administration office was obtained.Verbal consent of all women was obtained prior to participation.

Conclusions: The risk of placenta previa and placental abruption increased in the subsequent pregnancy after c/s delivery at first and, the risk increases with increase the number of c/s scars.

Poor antenatal care visit and socioeconomic status are associated with increase the risk of PP and AP.

Increased maternal age associated with increase the risk for PP and PA.

Patient with history of abortion have risk for develop PP and PA.

Recommendation

1-decrease the number of elective c/s if there is no medical indication.

2-provide good antenatal care center to identify the pregnant women with risk factor and when to intervene.

3-patient with history of previous PP OR PA should be followed carefully on routine ultrasound.

Older than 40 years -2%

1-previous c/s birth: there is a strong associated between previous c/s and risk of subsequent development of placenta previa (18).

2-multiparity: women who had previous pregnancies have excess risk of PP (5).

3-multiple gestation: it occurs due to the larger surface of placenta or due to the risk factor that led to the development of multiple gestation as: increase mother age, family history(5).

4-dilatation and curettage: damage of endometrium or the myometrium may be factor in implantation of placenta in the lower uterine segment. (19).

5-prior PP: mothers with PP have a ten-fold risk of recurrence at subsequent pregnancies(5).

Conflict of Interest – Nil

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Ethical Clearance – Not required

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