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Placental complications among Iraqi Pregnant Women with Placenta Accreta

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الخلاصة:

خلفية البحث: المشيمة الملتصقة هي ارتباط غير طبيعي للمشيمة بعضل الرحم، وتعتبر السبب الأكثر شيوعاً لاستئصال الرحم في حالات الطوارئ بعد الولادة، وهي السبب رئيسي لمراضة ووفيات الأمهات. إذا تم اكتشاف المشيمة الملتصقة أو الاشتباه بها قبل الولادة، فإن أفضل وقت للولادة هو حوالي (34- 35) أسبوعاً، مع استراتيجية فريق متعدد التخصصات لمنع المضاعفات أثناء الولادة مثل عدوى الرحم، والنزيف المهبلي الشديد، وتمزق جدار الرحم، و انقلاب الرحم الثانوي بسبب إزالة المشيمة اليدوية.

الهدف: لتقييم مضاعفات المشيمة عند النساء الحوامل المصابات بالمشيمة الملتصقة ولتقييم التاريخ التوليدي للنساء الحوامل المصابات بالمشيمة الملتصقة.

المنهجية: أجريت هذه الدراسة في ردهات الولادة في المستشفيات التعليمية في مدينة بغداد. تكونت عينة الدراسة من (410) سيدة حامل تم تشخيص إصابتهن بالمشيمة الملتصقة من أصل (58,600) عملية قيصرية. دراسة بأثر رجعي لآخر ثلاث سنوات مضت، من كانون الثاني / 2018 إلى كانون الأول / 2020، تم جمع البيانات من سجلات المرضى في قسم الإحصاء بالمستشفيات التعليمية.

النتائج: تبينت نتائج الدراسة ان جميع النساء تعاني من التصاق المشيمة بجدار الرحم بنسبة (100%) .وجدت الدراسة (45.6%) من النساء تحتاج الى من 4 الى 5 مكابيل دم وهي كمية الدم المنقول الى الام خلال الولادة. وكذلك لوحظ حوالي (52.7%) تكون ولادة قيصرية حرجة تحتاج الى جراح متعدد التخصصات.

الاستنتاجات: جميع النساء المشخصات بالمشيمة الملتصقة تعاني من التصاق بجدار الرحم و يحتاجن الى نقل دم خلال عملية الولادة كذلك ضرورة توفير جراح متعدد التخصصات لان بعض النساء يكون الالتصاق ممتد الى الاعضاء المجاورة للرحم.

التوصيات: زيادة وعي النساء فيما يتعلق بمضاعفات التصاق المشيمة، تشجيع النساء على الالتزام بزيارات الفحص ما قبل الولادة و التشخيص المبكر المهم لتقليل المضاعفات.

الكلمات المفتاحية: المشيمة الملتصقة، اضطرابات المشيمة، النساء الحوامل العراقيات.

ABSTRACT

Background: Placenta accreta is an abnormal attachment of the placenta to the myometrium. It is the most common reason for an emergency postpartum hysterectomy, which is a major cause of maternal morbidity and mortality. If placenta accreta has been detected or suspected prior to birth, the best time to deliver is about (34-35) weeks, with a multidisciplinary team strategy to prevent complications during birth such as uterine infection, massive vaginal bleeding, uterine wall rupture, and uterine inversion secondary due to tried manual placenta removal.

Objective: To assess placenta complications for pregnant women with placenta accreta and to assess the obstetrical history of pregnant women with placenta accreta.

Methodology: This study was conducted at Maternity wards in Baghdad City's. The study sample consists of (410) pregnant women diagnosed with placenta accreta out of 58,600 cesarean sections. Retrospective study for last three years ago, from January /2018 to December/ 2020, The data collected

from patient records in the Statistical Department of the hospitals.

Results: The results of the study showed that all women suffer from the adherence of the placenta to the uterine wall at a rate of (100%). The study found (45.6%) of women needing from 4 to 5 pints of blood, the amount of blood transferred to the mother after childbirth. Also, about (52.7%) was noticed to be a critical cesarean delivery requires a multidisciplinary surgeon.

Conclusion: women diagnosed with placenta accreta suffer from adhesion placenta to the uterine wall and need a blood transfusion during the delivery process, as well as the need to provide a multidisciplinary surgeon because some women have the adhesion extended to the organs adjacent to the uterus.

Recommendation: Increase awareness of women regarding the complications of placenta accreta, Encourage women to commit to prenatal visits and early diagnosis is important to minimize complications.

Keyword: placenta accreta, Placental Disorders, Iraqi Pregnant Women.

INTRODUCTION

Placenta accreta is considered a pregnancy condition with elevated risk, the pregnant woman requires an early C-section delivery accompanied by surgical evacuation of the uterus and may be needed for a (hysterectomy) if the disease is detected before birth, in (2,500) a birth, placenta accreta affects approximately one pregnancy, A host of issues are faced by women with placenta accreta, including not only bleeding but also blood transfusion with related complications, local organ damage, amniotic fluid embolism, postoperative inflammation, thromboembolism, multi-organ failure, and death [(1)]. Maternal morbidity to (60%) up to (7%) maternal mortality, placenta accreta perinatal complications are primarily due to preterm delivery and limited fetal gestational age complications [(2)]. In women with placenta accreta; the average blood loss at birth is (3,000 - 5,000 ml) [(3)]. The ability to correctly detect placenta accreta is important considering the substantial morbidity associated with this condition, as it helps both the patient and the physician to be prepared for the future complications of delivery, for the prenatal examinations of suspected placenta accreta, ultrasound may be used [(4)]. Prenatal diagnosis of placenta accreta may help reduce the complication risk by enabling a surgeon to prepare for the kind of services required at the time of delivery, these properties include obstetric anesthesia, suitable surgical skills, usable blood products, and technology for cell saving [(5, 6)].

AIMS OF THE STUDY

To assess placenta complications for pregnant women with placenta accreta and to assess the obstetrical history of pregnant women with placenta accreta.

METHODOLOGY

- **Study Design:** A retrospective study was carried out to Placental complications among Iraqi Pregnant Women with placenta accreta at maternity wards in Baghdad City's Teaching Hospitals.
- **Study Setting:** In this study setting (4) teaching Hospitals in Baghdad City's; including Ibn Al Baladi Teaching Hospital, Al awiya Maternity Teaching Hospital, Al -Yarmouk Teaching Hospital, Baghdad Teaching Hospital.

RESULTS

Table (1): Distribution of Women According to their Sociodemographic Characteristics

L.	Characteristics		f	%
1	Age (M±SD=32±6)	≤ 19 years	11	2.7
		20 – 29 year	124	30.3
		30 – 39 year	208	50.7
		40 ≤ year	67	16.3
		Total	**410**	**100**
2	Blood group	A	47	11.5
		B	79	19.3
		O	189	46.1
		AB	95	23.2
		Total	**410**	**100**
3	Rh factor	Positive	96	23.4
		Negative	314	76.6
		Total	**410**	**100**
4	Occupation	Housewife	292	71.2
		Employee	92	22.4
		Retired	2	0.5
		Student	24	5.9
		Total	**410**	**100**
5	Residency	Urban	268	65.4
		Rural	54	13.2
		Suburban	88	21.5
		Total	**410**	**100**
6	Smoking	No	363	88.5
		Yes	47	11.5
		Total	**410**	**100**

F: Frequency, %: Percentage, M: Mean, SD: Standard deviation

This table shows that pregnant women are with age 32±6 years in which (50.7%) of them is with age 30 - 39 years and (30.3%) are with age group 20-29 years. The blood group presents that (46.1%) of pregnant women are of blood group "O",(23.2%) of them are of "AB" group, (19.3%) are of "B" blood group, and only (11.5%) are of "A" blood group. The Rh factors refers that (76.6%) of pregnant women are with negative Rh factors while (23.4%) are with positive factor. Regarding occupation, (71.2%) of pregnant women are housewives and only (22.4%) are governmental employee. The residency variable shows that (65.4%) of pregnant women residents at urban area and (21.5%) are resident at suburban area. The smoking status shows that (88.5%) of pregnant women are not smoking and only (11.5%) of them are smoking.

Table (2): Distribution of Pregnant Women according to their Obstetrical History

L.	History		f	%
1	Gravid a (M±SD=6±2)	2 – 4	143	34.9
		5 – 7	178	43.4

		8 – 10	74	18
		11 ≤	15	3.7
		Total	**410**	**100**
2	**Para (M±SD=4±2)**	**None**	3	0.7
		1 – 3	186	45.4
		4 – 6	156	38
		7 – 9	52	12.7
		10 ≤	13	3.2
		Total	410	100
3	**Mode of previous delivery**	**Normal delivery**	0	0
		cesarean section	410	100
		Total	**410**	**100**
4	**Number of previous delivery**	1 – 3	133	32.4
		4 – 6	188	45.9
		7 – 9	67	16.3
		10 – 12	22	5.4
		Total	**410**	**100**
5	**Number of abortion**	**None**	223	54.4
		1	105	25.6
		2	45	11
		3	27	6.6
		4 +	10	2.4
		Total	**410**	**100**
6	**pregnancy trimester (pregnancy with placenta accrete)**	**First semester**	0	0
		Second semester	4	1
		Third semester	406	99
		Total	***410***	***410***
7	**Gestational age by ultrasound at birth**	1 – 12 week	0	0
		13 – 27 week	4	1
		28 – 38 week	406	99
		Total	**410**	**100**
8	**Time between last cesarean and current pregnancy (M±SD=2±1)**	**None**	1	0.2
		1 years	81	19.8
		2 years	155	37.8
		3 years	96	23.4
		4+ years	77	18.8
		Total	**410**	**100**

F: Frequency, %: Percentage

This table reveals that pregnant women having history of 5-7 gravidity (43.4%) in which average refers to 6±2 pregnancies. The table shows that (45.4%) of pregnant women having history of 1 – 3 lived children and (38%) having 4 – 6 lived child. All of pregnant women were getting cesarean section as a mode of delivery (100%), (45.9%) of them are having 4 – 6 cesarean section and (32.4%) are having 1 – 3. More than half of pregnant women (54.4) shows have not abortion but (25.6%) of them having previous one abortion. The

gestational age by ultrasound at birth among pregnant women refer to third semester among most of them (99%).The gestational age by ultrasound at birth refers to 28–38 weeks among most of the pregnant women (99%). The interval between last cesarean section and current pregnancy refers to 2 years among the highest percentage of pregnant women (37.8%).

Table (3): Distribution of Pregnant Women according to Placental Complications

L.	History		f	%
1	**Adhesion of the placenta to the uterine wall**	No	0	0
		Yes	410	100
		Total	**410**	**100**
2	**Amount of blood transfused**	2 pint	1	0.2
		3 pint	7	1.8
		4 pint	187	45.6
		5 pint	183	44.6
		6 pint	32	7.8
		Total	**410**	**100**
3	**Hemoglobin level**	≤ 12 g/dl	363	88.5
		12 < g/dl	47	11.5
		Total	**410**	**100**
4	**Critical cesarean need to multi-specialty surgeon**	No	194	47.3
		Yes	216	52.7
		Total	**410**	**100**

F: Frequency, %: Percentage

This table (3) reveals that all pregnant women have shown adhesion of the placenta to the uterine wall (100%). Regarding the amount of blood transfused for pregnant women, (45.6%) of them receiving 4 pints of blood, and (44.6%) receiving 5 pints of blood. The hemoglobin level is referred to ≤ 12 g/dl among more pregnant women (88.5%). Among the pregnant women, (52.7%) of them are seen associated with critical cesarean section that needs to the multi-specialty surgeon.

DISCUSSION

The analysis of findings regarding General Information of women with placenta accreta, as shown in table (1), the result show is age high percentage (50.7%) of them are pregnant women age (30-39) years with placenta accreta. This result is consistent with the study obtained by (Zeevi et al., 2018) who stated that the mean age and most of the study sample within the age group of (28-36) years old [7]. Also, show result presents that (46.1%) of pregnant women are of blood group “O”, and (23.2%) of them are of the “AB” group, and (19.3%) are of the “B” blood group, and only (11.5%) are of “A” blood group.

This result is consistent with the study obtained Salman et al. (2013) who found was (56%) blood group (O) and this could be due to race and genetic, In the present show study, the majority of the sample (71.2%) were housewives, and (22.4%) of them are governmental employees, this high percentage, The finding found women's type occupation it a role in increasing placenta accreta during pregnancy especially stand-up working, may have an effect on her health such as antepartum bleeding, and her

fetus health especially at risk of low birth weight and preterm labor, Regarding Residency, The highest percentage (65.4%) of the study sample the women living in an urban area, while the lowest percentage (13.2%) are residents in rural areas, and (21.5%) are residents in suburban areas. This result does not agree with Salman et al who found the pregnant women with placenta accreta live in rural areas (60%). The women are who live in rural are unaware of the importance of prenatal visits and poor education standards about signs and symptoms of accreta [8].

The result shows that the majority of the sample (88.5%) of pregnant women is not smoking and only (11.5%) of them are smoking. These findings are consistent with Bowman et al., 2014 who stated that the highest percentage (81.6%) were nonsmokers ,smoking is a biologically plausible risk factor since smoking is known to impair wound healing and smoking makes a contribution to compensatory placenta hypertrophy. Consequently, be the placenta previa this from risk factors of cause placenta accreta [9].

Table (2) indicates the result regarding the gravidity, the higher percentage (43.4%) of the study sample had (5-7) pregnancies. (KILIÇCI et al., 2017) found that the relationship between gravida and placenta accreta was high, the study sample (58.3%) indicates of the placenta accreta that incidence in four or more pregnancies, The lack of health education about the number of gravida, against the use of family planning methods (especially in rural areas) due to increased number of time of gravida, Regarding of mode of previous delivery, the higher percentage (100%) of the study sample the pregnant women had a cesarean section [10].

This result agrees with AbdElfatah et al (2017) who found (100%) pregnant women were getting cesarean section as a mode delivery. that the high percentage of women who undergo cesarean delivery is a fear of natural childbirth. She believes cesarean delivery is less painful than a normal birth. Regarding of the number of previous delivery (45.9%) of them having (4-6) cesarean sections and (32.4%) of them is having (1-3) cesarean delivery. These results show that there is a significant association between the number of the cesarean sections and the placenta accreta [11].

The result indicates that (54.4%) of the sample study did not heave abortion, while (25.6%) of them having one previous abortion. Sofiah & Fung (2009) who said a number of previous curettage increase the incidence of placenta accreta. The highest percentage of the study sample (99%) from (28-40) weeks of pregnancy trimester (pregnancy with placenta accreta) [12] this result refers to the third trimester of pregnancy (Mohamed & Ahmed, 2018) found gestational age more than (30) weeks when the pregnant woman was discovered to have contracted placenta. The researcher believes that explains the majority of patients are diagnosing with placenta accreta at birth in Iraqi [13]. Regarding of, the gestational age by ultrasound at birth among pregnant women refers to third semester among most of them (99%). The finding believes based on high percentage results in Iraq; the placenta accreta is detected at birth and not during prenatal. The results indicate the interval between the last cesarean section and current pregnancy is 2 years, the highest percentage of pregnant women (37.8%). The study refers to believes women need to raise awareness about family planning for regulating the Intervals between pregnancies.

Table (3) regarding the adhesion of the placenta to the uterine wall, it was found that (100%) of the study sample, these results are not consistent with (Mahmood & Bahaaldeen, 2018) they found most women do experience placenta Adhesion (62%) [14]. While Kadhim et al. (2020) mentioned that the women with placenta accrete in the study sample were (85.4%), between previous studies and the current study shows a rising in placenta accrete as a

result of the increased number of the cesarean section in recent years, and cesarean delivery is one of the risk factors that cause of the placenta accreta [15].

Regarding the amount of blood transfused for pregnant women, (45.6%) of them receiving (4) pints of blood and (44.6%) receiving (5) pints of blood, this finding agreed with Kadhim et al. 2020 who reported that a high percentage of their study sample (73.2%) estimated total blood transfusion (4) units. While the current study they agree with (Kayem et al., 2013) stated that a majority (41.9%) of the study sample receiving blood units, (AbdElfatah et al., 2017) who revealed that (79.6%) estimated total blood transfusion of removal of the placenta after birth. At the moment of delivery during the manual removal of the placenta, a pregnant woman will be exposed to massive bleeding, therefore, needs 4 to 6 units to replace lost blood [16].

The hemoglobin level is referred to ≤ 12 g/dl among more pregnant women (88.5%), this result agrees with (Mahmood & Bahaaldeen, 2018) who said that women with anta, intra, and PPH always experience low HB levels. Bleeding during pregnancy is one of the symptoms of placenta accrete lead to a decreased level of HB and causes anemia [14].

The results indicate that the highest percentage (52.7%) of pregnant women with placenta accreta and underwent a critical cesarean section that needs a multi-specialty surgeon, the present study agreed with the previous study done by (Kadhim et al., 2020) who found that (59.5%) of pregnant women have implantation placenta location over sewing normal location. Pregnant women need a multi-specialty surgeon to remove the placenta, because some types of placenta accreta cause damage to the bladder and organs adjacent to the uterus, and that needs a multi-specialty surgeon [15].

CONCLUSION

All pregnant women with placenta accreta have shown adhesion of the placenta to the uterine wall, needed a blood transfusion, and need a critical cesarean section that needs to a multi-specialty surgeon.

RECOMMENDATIONS

1. Increase awareness of women regarding the complications of placenta accreta.
2. Encourage women to commit to prenatal visits because it helps the surgeon to prepare services required at the time of delivery.
3. Early diagnosis is important to minimize complications.

- **Ethical Clearance:** All experimental protocol was approved under the College of Nursing, University of Bagdad, Iraq and all experiments were carried out in accordance with approved guidelines.

REFERENCES:

1. Belfort, M. A., Committee, P., & Medicine, S. for M.-F. (2010). Placenta accreta. *American Journal of Obstetrics and Gynecology*, 203(5), 430–439.
2. Angstmann, T., Gard, G., Harrington, T., Ward, E., Thomson, A., & Giles, W. (2010). Surgical management of placenta accreta: a cohort series and suggested approach. *American Journal of Obstetrics and Gynecology*, 202(1), 38-e1.
3. Oyelese, Y., & Smulian, J. C. (2006). Placenta previa, placenta accreta, and vasa previa, Obstetrics & Gynecology, 107(4), 927–941.
4. Dwyer, B. K., Belogolovkin, V., Tran, L., Rao, A., Carroll, I., Barth, R., & Chitkara, U. (2008). Prenatal diagnoses of placenta accreta: sonographic or magnetic resonance imaging? *Journal of Ultrasound in Medicine*, 27(9), 1275–1281.
5. Russo, M., Krenz, E. I., Hart, S. R., & Kirsch, D. (2011). Multidisciplinary approach to the management of placenta accreta, *Ochsner Journal*, 11(1), 84–88.

6. Tong, S. Y. P., Tay, K. H., & Kwek, Y. C. (2008). Conservative management of placenta accreta: review of three cases. *Singapore Med J*, 49(6), 156–159.

7. Zeevi, G., Tirosh, D., Baron, J., Sade, M. Y., Segal, A., & Hershkovitz, R. (2018). The risk of placenta accreta following primary cesarean delivery, Archives of Gynecology and Obstetrics. 297(5), 1151–1156.

8. Salman, S. T., Mohammed, A. H., Noaman, N. G., & Ibrahim, H. K. (2013). Prevalence of placenta accreta in Diyala governorate during 2010-2012 years, *The Medical Journal of Tikrit*, 19(2), 286–295.

9. Bowman, Z. S., Eller, A. G., Bardsley, T. R., Greene, T., Varner, M. W., & Silver, R. M. (2014). Risk factors for placenta accreta: a large prospective cohort, *American Journal of Perinatology*. 31(09), 799–804.

10. KILIÇCI, Ç. EKEN, M. K., İLHAN, G., ÇÖĞENDEZ, E., ŞANVERDİ, İ., KESKİN, M., ABİDE, Ç. Y., & KARATEKE, A. (2017). Evaluation of Risk Factors, Incidence, Perinatal and Maternal Outcome of Placenta Previa Cases with and without Placenta Accreta Spectrum, Düzce Tıp Fakültesi Dergisi. 19(3), 75–80.

11. AbdElfatah, E. A., Awad, E. E. M., Abd-Eldaym, T. M., & Ali, Z. H. (2017). Outcome of patients with placenta accreta at El Shatby Maternity University Hospital, *Open Journal of Obstetrics and Gynecology*, 7(07), 725

12. Sofiah, S., & Fung, Y. C. (2009). Placentas accreta: clinical risk factors, accuracy of antenatal diagnosis and effect on pregnancy outcome, *The Medical Journal of Malaysia*. 64(4), 298–302.

13. Mohamed, A. H., & Ahmed, I. M. M. (2018). Incidence of Placenta Accreta and its Complications in Cases of Previous Cesearean Sections with Placenta Previa Anterior at Al Hussein University Hospital, *The Egyptian Journal of Hospital Medicine*, 73(3), 6310–6315.

14. Mahmood, Z. S., & Bahaaldeen, E. F. (2018). Risk factors of the placenta Previa and their consequences on feto-maternal outcomes at Maternity Hospitals in Baghdad city, *Indian Journal of Public Health Research & Development*. 9(8), 1292–1298.

15. Kadhim, A. A. M., Flaih, A. F., & Alheidery, H. H. A. (2020). Placenta accreta spectrum: maternal near miss, Annals of Tropical Medicine and Public Health. 23, 232-244.

16. Kayem, G., Davy, C., Goffinet, F., Thomas, C., Clément, D., & Cabrol, D. (2004). Conservative versus extirpative management in cases of placenta accretes. *Obstetrics & Gynecology*, 104(3), 531–536.