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Editorial

Clinical Audit on Placenta Accreta Management

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Abstract

Introduction: Placenta accreta is a potentially life-threatening obstetric condition. Placenta accreta is more common than placenta increta and percreta. the incidence of Placenta accrete is about 63 percent while Placenta increta is 15 percent and Placenta percreta is 22 percent [1].

Study Setting: The study was done at Obstetrics and Gynecology department, Women's Health Hospital WHH, Assiut University, Egypt, starting from February 2018 till February 2020.

Materials and Methods: Our study compares the management of placenta against the standard guidelines. Our study included 96 cases admitted to Women's Health Hospital, Assiut University Our study included 96 cases admitted to Women's Health Hospital, Assiut University, all cases had one or more previous cesarian section, all were diagnosed before delivery as placenta previa. The average gestational age at delivery was 37 weeks. Eighty four (84) cases had uterus preserving surgery while 12 had peripartum hysterectomy. Postoperative ICU admission was more in peripartum hysterectomy (50%) than uterus preserving surgery (3.6%). Six out of 95 liveborn were admitted to NICU due to prematurity (delivered at 34 weeks or less) and congenital anomalies with one stillbirth.

Conclusion: Placenta accreta spectrum is becoming a more common complication of pregnancy. Prenatal diagnosis is important in optimizing the counseling, treatment, and outcome of women with placenta accreta. The most important risk factor for PAS is placenta previa after a prior cesarean delivery. It is critical to develop a plan preoperatively for managing women with a high likelihood of placenta accreta spectrum (PAS). Surgical treatment for placenta accreta is commonly performed as hysterectomy. However, conservative management should be the preferred approach especially due to Fertility issues (preserve fertility and thus reduce the impact on a woman's societal status and the loss of self-esteem that is often associated with the loss of her uterus), Young maternal age not accepting hysterectomy, Skilled multidisciplinary team and When placental resection is thought to be possible because of focal accreta or a fundal or posterior placenta.

Keywords: *Placenta Accreta Spectrum; Placenta Previa; Surgical Management of Placenta Accreta Spectrum; Peripartum Hysterectomy*

Introduction

Placenta accreta is a potentially life-threatening obstetric condition that requires a multidisciplinary approach to management. The incidence of placenta accreta has increased and seems to parallel the increasing cesarean delivery rate. Women at greatest risk of placenta accreta are those who have myometrial damage caused by a previous cesarean delivery with either an anterior or posterior placenta previa overlying the uterine scar. The average blood loss at delivery in women with placenta accreta is 3,000 - 5,000 mL [2].

Women at greatest risk of placenta accreta are those who have myometrial damage caused by a previous cesarean delivery with either anterior or posterior placenta pre- via overlying the uterine scar. The authors of one study found that in the presence of a placenta previa, the risk of placenta accreta was 3%, 11%, 40%, 61%, and 67% for the first, second, third, fourth, and fifth or greater repeat cesarean deliveries, respectively [3]. Placenta previa without previous uterine surgery is associated with a 1 - 5% risk of placenta accrete.

Besides advanced maternal age and multiparity, reported risk factors include any condition resulting in myometrial tissue damage followed by a secondary collagen repair, such as previous myomectomy, endometrial defects due to vigorous curettage resulting in Asherman syndrome [4], submucous leiomyomas, thermal ablation [5] and uterine artery embolization [6].

Transvaginal and transabdominal ultrasonography are complementary diagnostic techniques and should be used as needed. Transvaginal ultrasound is safe for patients with placenta previa and allows a more complete examination of the lower uterine segment. A normal placental attachment site is characterized by a hypo echoic boundary between the placenta and the bladder.

Although most studies have suggested comparable diagnostic accuracy of MRI and ultrasonography for placenta accreta, MRI is considered an adjunctive modality and adds little to the diagnostic accuracy of ultrasonography. However, when there are ambiguous ultrasound findings or a suspicion of a posterior placenta accreta, with or without placenta previa, ultrasonography may be insufficient. A prospective series of 300 cases published in 2005 showed that MRI was able to outline the anatomy of the invasion and relate it to the regional anastomotic vascular system [7].

In our study all 96 patients had history of previous cesarean section. Previous cesarean section has been reported as the most common risk factor for Placenta Previa in earlier studies also [8,9]. Doppler ultrasound was done to all cases included in the study which is agreeable with previous studies [10,11]. 91.7% of patients who underwent perinatal hysterectomy had high possibility of placental invasion by Doppler ultrasound. The Mean gestational age at delivery was 37 weeks. There are varying protocols with recommendations ranging from 34 to 36 weeks to 36 - 38 weeks of gestational age for planned delivery [12-17]. In our study 87 patients had elective C.S (90.6%). While 9 patients had emergent C.S (9.4%). Compared to 27 (48.2%) patients had an emergency surgery, 29 (51.8%) patients had an elective caesarean section [18]. In our study, the average blood loss was 1.8L which is lower than the 2.20 - 3.60L previously described in studies reporting blood loss in a similar fashion [12,19-21]. Range of intra-operatively transfused blood units was between one and eight units with median of two units which is lower than the 3.5 units previously described in studies reporting blood transfusion in a similar fashion [12,22,23]. The average blood loss in patients underwent peripartum hysterectomy was 2.2 L while the average blood loss in conservative surgery was 1.8L. Blood transfusion was more in patients underwent peripartum hysterectomy (4 units average) compared to others in conservative surgery (2 units average). Urinary tract injuries were in 21 patients (21.8%). No, intestinal injuries reported in our study compared to other studies with a similar fashion in which Urinary tract injuries were in 12.8% and intestinal injury in 2.1% [24]. Urinary bladder injury occurred in 16 cases (19%) in uterus preserving surgery while in 5 cases (41%) in cesarean hysterectomy. Out of 96 patients 12 patients (12.5%) underwent peripartum hysterectomy in comparison to a systematic review including 7001 PAS cases, peripartum hysterectomy was performed in 52.2% [1] and 57% of patient involved in similar study [25]. While successful conservation of the uterus in 84 patients (87.5%) of which Uterine artery ligation was done in 72 patients (75%) and B-Lynch suture was performed in 4 patients (4.2%). Internal iliac artery ligation wasn't required in any of our study cases compared to other studies in which uterine artery ligation was needed in 7.1% of the total cases and B lynch suturing was required in 3.5% of the total cases. Internal iliac artery Discussion 74 ligation was required in 1 patient (1.78%) of the total cases [18]. Intrauterine balloon was used in 4 patients (4.2%) in agreement with [19] in which uterine balloon tamponade was used in 3 patients (9.6%) and 33 patients (25%) respectively. Nine patients (9.4%) were admitted to ICU compared to 7.1% patients needed ICU care after delivery in similar studies [18]. In our study there were 95 (98.9%) livebirths and 1 stillbirth (1.1%) because of extreme prematurity. 6 of the 95 liveborn babies (6.3%) required admission to the neonatal intensive care unit compared to 93.5% livebirths, 6.5% stillbirth and 37.9% required admission to the neonatal intensive care unit in previous study [19]. The mean gestational age at delivery in our study is 37 weeks gestation which isn't in agreement with the American College of Obstetricians and Gynecologists 2018 that recommend planned delivery between 34+0 and 35+6 weeks of gestation, planned delivery at 35+0 to 36+6 weeks of gestation is recommended by the Royal College of Obstetricians and Gynecologists 2018. This gestational age is due to - late diagnosis of PAS -not very high quality NICUs Caesarean section hysterectomy with the placenta left *in situ* is the definitive management [1,26]. In our study 12 (12.5%) cases underwent Caesarean hysterectomy while 84 (87.5%) cases had uterine conservative surgery without leaving the placenta *in situ* after appropriate counseling regarding risks and with Discussion 75 informed consent In 2018, the Green-top guideline advocated conservative management of PAS and reported that when the invasion of placental tissue inside the myometrium is limited in its extent and the entire placental invasion area is accessible when visualized, conservation of the uterus may be applicable, including partial myometrial resection [1]. Uterine preservation due to

- Fertility issues (preserve fertility and thus reduce the impact on a woman's societal status and the loss of self-esteem that is often associated with the loss of a uterus).
- Young maternal age not accepting hysterectomy.
- Skilled multidisciplinary team
- When placental resection is thought to be possible because of focal accreta or a fundal or posterior placenta.

This audit aims to compare the management of placenta accreta to the standard guidelines or published reports were performed. Also, it aims to Identify gap between current practice and guideline and to set recommendations for filling gap to improve outcome. Our study auditing the management of placenta accreta regarding maternal and fetal outcome against the standard guidelines. Our study included 96 cases admitted to Women's Health Hospital, Assiut University, all were diagnosed before delivery. The average gestational age at delivery was 37 weeks. 84 cases had uterus preserving surgery while 12 had peripartum hysterectomy. The average blood loss was more in cases underwent peripartum hysterectomy (2.2L) than those who had uterus preserving surgery (1.8L). The average intraoperative transfused blood units is more in peripartum hysterectomy (4 units) than uterus preserving surgery (2 units). Also, the percentage of urinary bladder injury was more in peripartum hysterectomy (41%) than uterus preserving surgery (19%). Postoperative ICU admission was more in peripartum hysterectomy (50%) than uterus preserving surgery (3.6%). 6 out of 95 liveborn were admitted to NICU due to prematurity (delivered at 34 weeks or less) and congenital anomalies with one stillbirth. Placenta accreta is becoming a more common complication of pregnancy. Prenatal diagnosis is important in optimizing the counseling, treatment, and outcome of women with placenta accreta. The most important risk factor for PAS is placenta previa after a prior cesarean delivery. PAS occurs in 11 percent of women with a placenta previa and one previous cesarean delivery. The risk increases substantially with increasing numbers of prior cesareans. Previous gynecologic uterine surgery is also a risk factor that should be considered, particularly among primigravidas. Women with a placenta previa or a low anterior placenta and prior uterine surgery should have thorough transabdominal and transvaginal sonographic evaluation of the interface between the placenta and myometrium between approximately 18 and 24 weeks of gestation. At this gestational age, the prenatal diagnosis of PAS can be made or ruled out with close to 90 percent accuracy. The diagnosis can be reasonably excluded when imaging studies suggest normal placental implantation [27]. It is critical to develop a plan preoperatively for managing women with a high likelihood of placenta accreta spectrum (PAS). The plan should involve a multidisciplinary team and scheduled delivery in a facility with resources and personnel to manage massive hemorrhage and complicated pelvic surgery. If the clinician does not manage patients with PAS routinely, these patients should be referred to a center with experience and expertise.

	N = 96
Blood loss (ml)	1851.04 ± 511.75
Transfused units	2 (1 - 8)
Placental separation types	
Adherent all parts	63 (65.5%)
Adherent some parts	33 (34.5%)
Oxytocin use	91 (94.8%)
Ergometrine use	70 (72.9%)
Carbetocin	38 (39.6%)
Misoprostol	82 (85.4%)
Uterine artery ligation	72 (75%)
B-Lynch suture	4 (4.2%)
Intrauterine balloon	4 (4.2%)

Bladder injury	21 (21.9%)
Bladder adhesion	
Marked	21 (21.9%)
Minimal	75 (78.1%)
Peripartal hysterectomy	12 (12.5%)
Type of anesthesia	
Spinal	16 (16.7%)
General	80 (83.3%)
Level of anaesthetist	
Specialist	79 (82.3%)
Consultant	11 (11.5%)
Professor	6 (6.3%)
Surgeon	
Consultant	42 (43.8%)
Specialist	33 (34.4%)
Professor	15 (15.6%)
Specialist and professor	1 (1%)
Consultant and professor	1 (1%)
Specialist and consultant	4 (4.2%)

Table 1: *Operative data among enrolled women.*

Data expressed as frequency (percentage), mean (SD), median (range).

	Conservative (n= 84)	**Hysterectomy (n= 12)**	***P* value**
Age (years)	30.88 ± 5.74	32.75 ± 4.13	0.28
Parity	1 (1-12)	1 (1-6)	0.52
Blood loss (ml)	1790.47 ± 432.31	2275 ± 792.14	< 0.001
Hemoglobin level (mg/dl)			
Pre-operative	11.24 ± 1.21	10.73 ± 1.09	0.16
Post-operative	9.64 ± 1.57	9.27 ± 1.30	0.43
Transfused unit			
Intraoperative	2 (1-7)	4 (2-8)	< 0.001
Post-operative	1 (1-4)	2 (1-6)	0.35
Doppler invasion			0.68
Low	15 (17.9%)	1 (8.3%)	
High	69 (82.1)	11 (91.7%)	
Placental separation			< 0.001
Adherent some parts	33 (39.3%)	0	
Adherent all parts	51 (60.7%)	12 (100%)	
Bladder injury	16 (19%)	5 (41.7%)	0.08
Admission to ICU	3 (3.6%)	6 (50%)	< 0.001

Table 2: *Outcome based on type of management.*

Data expressed as mean (SD), median (range), frequency (percentage). P value was significant if < 0.05.

Conclusion

Surgical treatment for placenta accreta is commonly performed as hysterectomy. However, conservative management should be the preferred approach especially for pregnant women who want to retain their future fertility and not accepting hysterectomy after extensive counseling regarding risks. In this audit, we have presented uterus preserving management versus C.S hysterectomy regarding maternal and fetal outcome.

Recommendations

Future studies on:

- Optimal timing of delivery for both conditions (placenta previa and placenta accreta) are needed.
- Surgical and nonsurgical management strategies for placenta accreta spectrum.
- The diagnosis and management of placenta accreta spectrum should use a standardised evidence-based approach, including systematic correlation between ultrasound signs and detailed clinic diagnosis at delivery, and pathologic confirmation of grades of villous invasiveness where possible.

Bibliography

1. Jauniaux E., *et al*. "Placenta praevia and placenta accreta: diagnosis and management: green-top guideline No. 27a". *BJOG: An International Journal of Obstetrics and Gynaecology* 126.1 (2019): e1-e48.
2. Hudon L., *et al*. "Diagnosis and management of placenta percreta: a review". *Obstetrical and Gynecological Survey* 54.11 (1999): 156-164.
3. Silver RM., *et al*. "Maternal morbidity associated with multiple repeat cesarean deliveries". *Obstetrics and Gynecology* 107 (2006): 1226.
4. Al-Serehi A., *et al*. "Placenta accreta: an association with fibroids and Asherman syndrome". *Journal of Ultrasound in Medicine* 27.11 (2008): 1623-1628.
5. Hamar B., *et al*. "Premature rupture of membranes, placenta increta, and hysterectomy in a pregnancy following endometrial ablation". *Journal of Perinatology* 26.2 (2006): 135-137.
6. Pron G., *et al*. "Pregnancy after uterine artery embolization for leiomyomata:: the Ontario multicenter trial". *Obstetrics and Gynecology* 105.1 (2005): 67-76.
7. Jaraquemada JMP and CH Bruno. "Magnetic resonance imaging in 300 cases of placenta accreta: surgical correlation of new findings". *Acta Obstetricia et Gynecologica Scandinavica* 84.8 (2005): 716-724.
8. Faiz A and C Ananth. "Etiology and risk factors for placenta previa: an overview and meta-analysis of observational studies". *The Journal of Maternal-Fetal and Neonatal Medicine* 13.3 (2003): 175-190.
9. Ananth CV., *et al*. "The association of placenta previa with history of cesarean delivery and abortion: a metaanalysis". *American Journal of Obstetrics and Gynecology* 177.5 (1997): 1071-1078.
10. Comstock C and R Bronsteen. "The antenatal diagnosis of placenta accreta". *BJOG: An International Journal of Obstetrics and Gynaecology* 121.2 (2014): 171-182.

11. Maged AM., *et al*. "Prevalence and diagnostic accuracy of Doppler ultrasound of placenta accreta in Egypt". *The journal of Maternal-Fetal and Neonatal Medicine* 31.7 (2018): 933-939.

12. Walker MG., *et al*. "Multidisciplinary management of invasive placenta previa". *Journal of Obstetrics and Gynaecology Canada* 35.5 (2013): 417-425.

13. Al-Khan A., *et al*. "Maternal and fetal outcomes in placenta accreta after institution of team-managed care". *Reproductive Sciences* 21.6 (2014): 761-771.

14. Bowman ZS., *et al*. "Risk factors for unscheduled delivery in patients with placenta accreta". *American Journal of Obstetrics and Gynecology* 210.3 (2014): e241-241.

15. Rac MW., *et al*. "Placenta accreta and vaginal bleeding according to gestational age at delivery". *Obstetrics and Gynecology* 125.4 (2015): 808-813.

16. Silver RM., *et al*. "Center of excellence for placenta accrete". *American Journal of Obstetrics and Gynecology* 212 (2015): 561.

17. Camuzcuoglu A., *et al*. "Surgical management of 58 patients with placenta praevia percreta". *Wiener Klinische Wochenschrift* 128.9-10 (2016): 360-366.

18. Sood R., *et al*. "Current placenta previa management and outcome in a rural tertiary care centre". *International Journal of Reproduction, Contraception, Obstetrics and Gynecology* 6 (2017): 2050-2055.

19. Awan N., *et al*. "Emergency peripartum hysterectomy: A 10-year review at the Royal Hospital for Women, Sydney". *Australian and New Zealand Journal of Obstetrics and Gynaecology* 51.3 (2011): 210-215.

20. Ballas J., *et al*. "Preoperative intravascular balloon catheters and surgical outcomes in pregnancies complicated by placenta accreta: a management paradox". *American Journal of Obstetrics and Gynecology* 207.3 (2012): e211-216.

21. Allen L., *et al*. "FIGO consensus guidelines on placenta accreta spectrum disorders: nonconservative surgical management". *International Journal of Gynecology and Obstetrics* (2018): 281-290.

22. Wright JD., *et al*. "Morbidity and mortality of peripartum hysterectomy". *Obstetrics and Gynecology* 115.6 (2010): 1187-1193.

23. Eller AG., *et al*. "Maternal morbidity in cases of placenta accreta managed by a multidisciplinary care team compared with standard obstetric care". *Obstetrics and Gynecology* 117.2 (2011): 331-337.

24. Mitric C., *et al*. "Surgical management of the placenta accreta spectrum: an institutional experience". *Journal of Obstetrics and Gynaecology Canada* 41.11 (2019): 1551-1557.

25. Lional Karuna M., *et al*. "Uterine conservation in placenta accreta spectrum (PAS) disorders: A retrospective case series: is expectant management beneficial in reducing maternal morbidities?" *European Journal of Obstetrics and Gynecology and Reproductive Biology* 254 (2020): 212-217.

26. Cahill AG., *et al*. "Placenta accreta spectrum". *American Journal of Obstetrics and Gynecology* 219.6 (2018): B2-B16.

27. Bailit JL., *et al*. "Morbidly adherent placenta treatments and outcomes". *Obstetrics and Gynecology* 125 (2015): 683.

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