

Introduction

Placenta accreta is a severe obstetric condition associated with high maternal morbidity and mortality, necessitating multidisciplinary management. This study aimed to evaluate the epidemiological profile of placenta accreta (PA), assess the diagnostic accuracy of antenatal imaging, analyze therapeutic strategies and their short- and medium-term outcomes, and identify risk factors for maternal morbidity.

Methods

We conducted a retrospective, descriptive, and analytical study over a 44-month period, from January 1, 2019, to August 31, 2022, at the Maternity and Neonatology Center of Tunis. The study included all cases identified with PA based on clinical and operative coding, managed collaboratively by the Department of Gynecology and Obstetrics (Department C) and the Department of Anesthesia and Intensive Care. Data from patient records were analyzed to confirm diagnoses, evaluate treatment modalities, and identify maternal morbidity risk factors.

Results

Among 48 cases coded as PA, 43 were confirmed intraoperatively, representing a frequency of 0.4%. The median age of patients was 36 years, with a median parity of three and a median gravidity of three. A prior cesarean section was documented in 96% of cases. The mean gestational age at delivery was 35 weeks, and all deliveries were performed via cesarean section under general anesthesia. Surgical management included hysterectomy in 30 patients, conservative approaches in 13, and interventional radiology in 4. Blood transfusions were required for 34 patients, with 18 undergoing massive transfusion. Cesarean emergencies were the only identified risk factor for transfusion. Postoperatively, 23 patients required admission to the intensive care unit (ICU). Factors associated with ICU admission included transfusion, massive transfusion, hysterectomy, and catecholamine use. No maternal deaths were recorded in this series.

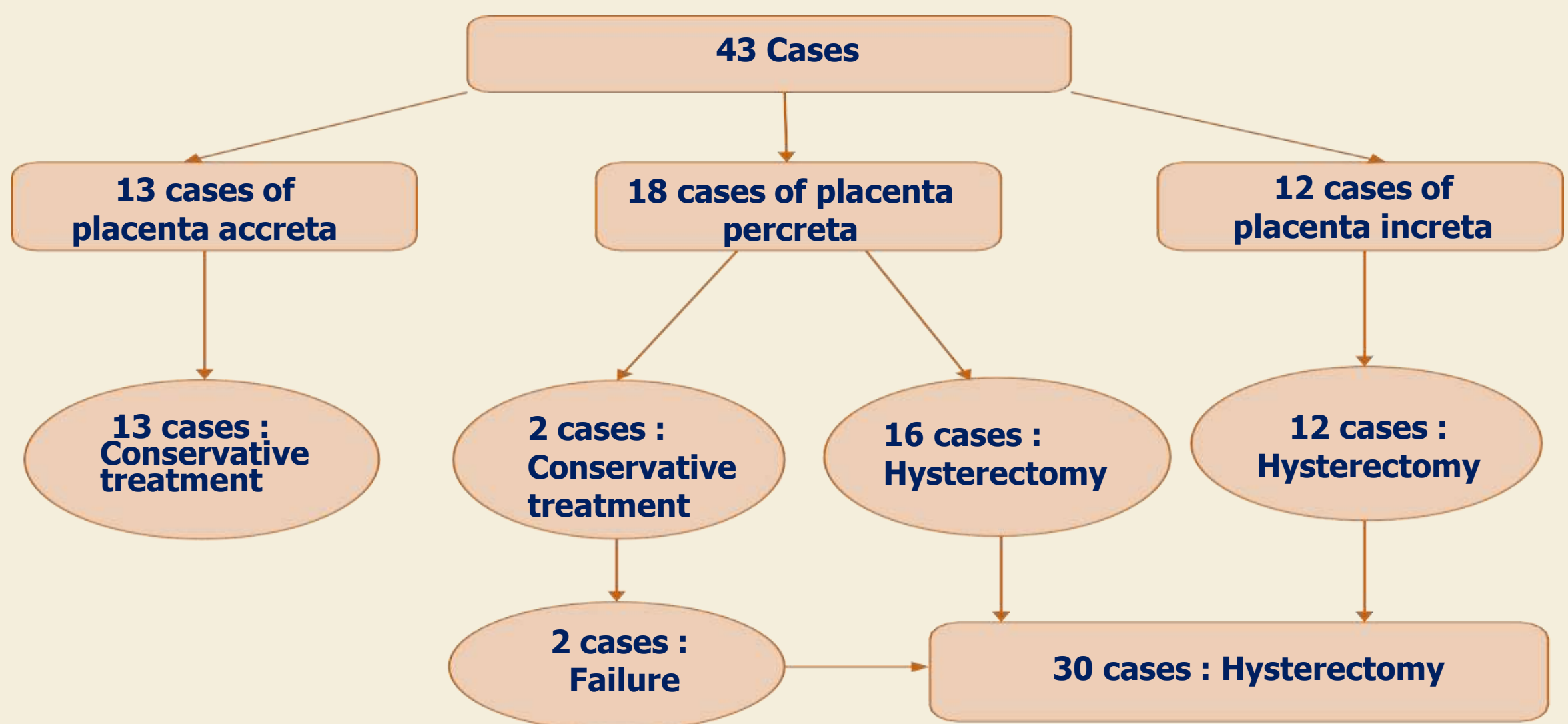


Fig. 1: Surgical management based on the anatomical type of PAS

Risk Factors		Transfusion YES		Transfusion NO		P
Emergency cesarean section (%)		18/18	(100%)	0	(0%)	0,004
Hysterectomy n (%)		24/30	(80%)	6/30	(20%)	0,8
Anatomical type n (%)	Placenta percreta	16/18	(89%)	2/18	(11%)	0,2
	Placenta increta	8/12	(67%)	4/12	(33%)	0,2

Table 1: Risk Factors for Blood Transfusion

Risk Factors		ICU admission YES		ICU admission NO		p
Emergency cesarean section n (%)		11/18 (61%)		7/18 (39%)		0,4
Hysterectomy n (%)		19/30 (63%)		11/30 (37%)		0,04
Transfusion n (%)		21/34 (62%)		13/34 (38%)		0,03
massive transfusion n (%)		18/18 (100%)		0		< 10-3
Use of catecholamines n (%)		12/12 (100%)		0		< 10-3

Table 2: Risk factors associated with intensive care unit (ICU) admission

Discussion

In our series of 43 placenta accreta spectrum (PAS) cases, the incidence was 4.4 per 1000 deliveries, markedly higher than those reported in the literature, which range from 0.2 to 0.8 per 1000 deliveries, likely due to our center's role as a national referral facility. Consistent with the literature, risk factors included prior cesarean section in 96% of cases, placenta previa in 74%, and maternal age >35 in 53% of patients.

Antenatal diagnosis using ultrasound reached 89% sensitivity, comparable to Jauniaux et al. (90.7%), while MRI achieved 92% sensitivity, in line with D'Antonio et al. (94.4%). Conservative management was attempted in selected cases, with a 23% failure rate, close to Bretelle's reported 19%, often requiring secondary hysterectomy. Hysterectomy was performed in 70% of cases, similar to international rates.

Massive transfusion occurred in 42% of cases, and transfusion needs were significantly higher in emergency cesarean deliveries. ICU admission was necessary in over half of the patients, particularly those undergoing hysterectomy or requiring vasopressors, echoing trends observed by Eller et al. Despite the severity of the condition, no maternal deaths were recorded, highlighting the benefit of multidisciplinary management in specialized centers.

Conclusion

Placenta accreta is a life-threatening condition that necessitates accurate prenatal diagnosis, particularly in high-risk women, and a multidisciplinary approach to optimize outcomes. Identifying and addressing risk factors, such as cesarean emergency, can help reduce maternal morbidity.

References :

D'Antonio F, Iacovella C, Palacios Jaraquemada J, Bruno CH, Manzoli L, Bhide A. Prenatal identification of invasive placentation using magnetic resonance imaging: systematic review and meta-analysis. *Ultrasound Obstet Gynecol.* 2014;44(1):8-16.
Hoffman MS, Karlinski RA, Mangar D, Whiteman VE, Zweibel BR, Lockhart JL, et al. Morbidity associated with nonemergent hysterectomy for placenta accreta. *Am J Obstet Gynecol.* 2010;202(6):628-9.
Sentilhes L, Ambroselli C, Kayem G, Provansal M, Fernandez H, Perrotin F, et al. Maternal outcome after conservative treatment of placenta accreta. *Obstet Gynecol.* 2010;115(3):526-34.