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Original Research Article

Retroplacental Hematoma at the Souissi Maternity Hospital in Rabat (About 60 Cases)

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Abstract

Retroplacental hematoma constitutes a major medical-obstetrical emergency, of unpredictable occurrence, putting at risk the vital and functional fetomaternal prognosis. Our work is a retrospective study of 60 cases of retroplacental hematoma that occurred at the Souissi Maternity Hospital in Rabat. These cases were identified from a total of 16864 deliveries, which represents a frequency of 0.35%. The main reason for admission was metrorrhagia. Among the etiological factors found, arterial hypertension dominated with a frequency of 40%. The average age of the patients was 28.31 years and 50% were primiparous. In 60% of the pregnancies, RPH occurred between 32 and 36 weeks of age. The diagnosis was made before birth in 65% of the cases, while in 36.66% of the cases the diagnosis was made only after the delivery examination. The classic form was found in 15% of cases. Therapeutic management was based on reanimation measures and uterine evacuation, taking into account the obstetrical and evolutionary circumstances of the retroplacental hematoma. Finally, the fetal prognosis was dominated by perinatal mortality, whereas the maternal prognosis was quite good overall, with no deaths. The improvement of the fetomaternal prognosis requires a better prenatal follow-up, an early diagnosis, and a rapid evacuation of the uterus without delay.

Keywords: Retroplacental hematoma, metrorrhagia, fetal distress.

INTRODUCTION

Pregnancy is a natural process, but it carries multiple risks. According to the World Health Organization, maternal mortality is estimated at 585,000 deaths per year and neonatal mortality at 9.6 million per year. While in developed countries complications of hypertension during pregnancy are responsible for 40% of maternal deaths, in our countries dysgravidia is the third cause of death after hemorrhage and infection [1]. Retroplacental hematoma (RPH) is one of the main causes of perinatal mortality and morbidity due to its sudden onset [2]. Worldwide, its incidence is estimated to be between 0.5 and 1.8% of pregnancies [3].

Retroplacental hematoma (RPH) is the premature detachment of the normally inserted placenta by a hematoma located between the uterine wall and the placenta [4]. It is a paroxysmal syndrome characterized anatomically by a basal decidual hematoma due to rupture of an uteroplacental artery. The interruption of maternal-fetal circulation rapidly leads to hemodynamic disorders associated with fetal suffering and coagulation abnormalities. It represents one of the most dramatic obstetrical emergencies for the mother and the fetus and is still too often an unpredictable accident.

The definition of RPH is primarily clinical. Its classic description associates black metrorrhagia of low abundance, intense abdominal pain, and uterine hypertonia up to a so-called "wooden" uterus. A non-reassuring fetal condition is often associated. Fresh or old clots are found during delivery in the case of vaginal delivery, during hysterotomy in the case of caesarean section and on examination of the placenta in both cases [5]. The objective of this work was to describe the epidemiological, clinical and prognostic aspects of RPH in our department.

MATERIALS AND METHODS

Our work is a retrospective observational study of 60 cases of retroplacental hematoma that occurred at the Souissi Maternity Hospital in Rabat. Its objective is to study epidemiological, clinical and prognostic aspects and to evaluate the quality of management of retroplacental hematoma at the Souissi Maternity Hospital in Rabat. These cases were identified from a total of 16864 deliveries, which represents a frequency of 0.35%. After selection of the cases according to the inclusion and exclusion criteria, the anamnestic, clinical, paraclinical, therapeutic and evolutionary data (useful in view of our work) were collected from the patients' files by using a pre-established analysis form.

The data were then processed and presented, for a given variable, in the form of number of cases, averages and frequencies. Finally, we made a comparative analysis of our results and those found in the various national and international series of literature on the subject of study. The diagnosis of PRH was made on the direct visualization of a PRH at the time of delivery and/or in front of an unequivocal clinical context (association of several clinical signs among the following ones: metrorrhagia, abdominopelvic pain, uterine hypertonia, non-reassuring fetal state, gravid hypertension, premature rupture of the membranes, premature labor, fetal death ...). Sometimes a RPH was directly visualized during an antenatal ultrasound. Sometimes a PRH was directly visualizied during an antenatal ultrasound. This was most often confirmed by the identification of the hematoma at d.

FINDINGS

These cases were identified from a set of 16864 deliveries, which represents a frequency of 0.35%, corresponding to 3.5 cases/1000 deliveries. The main reason for admission was metrorrhagia in 33.33% of cases. 53.33% of the cases of Retro placental Hematoma was referred. Among the etiological factors found, arterial hypertension was dominant with a frequency of 40%. The average age of the patients was 28.31 years and 50% were primiparous. For 60% of the pregnancies, the RPH occurred between 32 and 36 days of pregnancy.

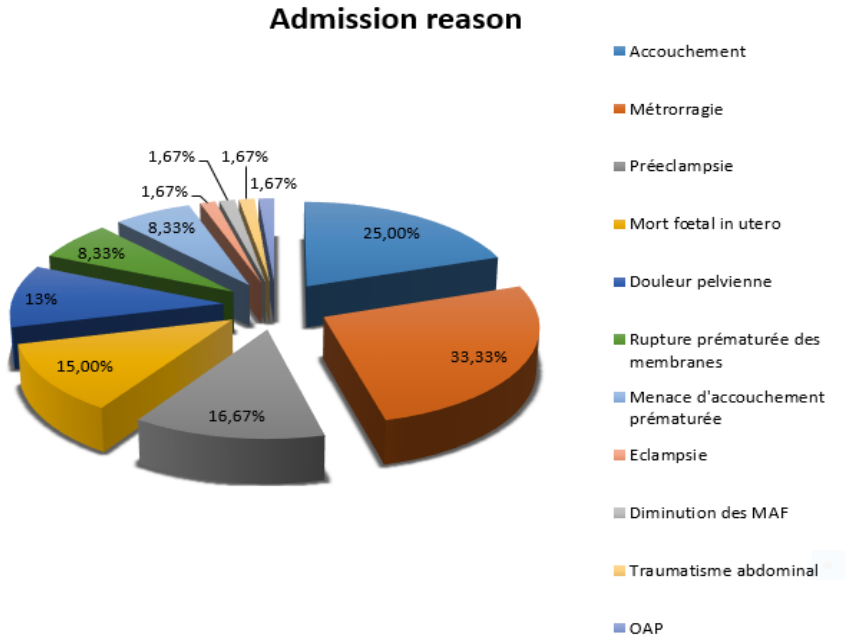

Fig 1: Distribution of PRH cases by cause of admission

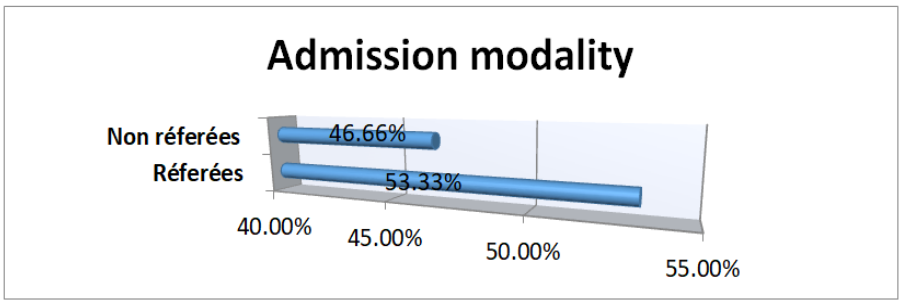

Fig 2: Distribution of RPH cases by mode of admission

The main gyneco-obstetrical history was abortion (18.33%) and fetal death in utero (16.67% of cases) followed by delivery by cesarean section, in 10% of cases in our study population.

In our series, 41.4% of the patients had carried their pregnancy to term, the gestational age was between the 28th and 42nd week of amenorrhea. The study was also characterized by a preponderance of gestational age groups 32-36 weeks (33.3%), 36-40 weeks (21.7%) and those of patients claiming to be at term (21.7%). On the other hand, the gestational age range below 32 and between 40-42 SA were less represented, with respectively 16.7% and 6.7% of cases.

In our series the pregnancy was followed by an obstetrician or a general practitioner in 68% of the cases, while 32% were not followed. The diagnosis was made before birth in 65% of the cases, while in 36.66%, the diagnosis was made after the delivery. The classic form was found in only 15% of cases.

	Noirâtre		Rouge		Non précisé	
Abondance	Effectif	Pourcentage (n=41)	Effectif	Pourcentage (n=41)	Effectif	Pourcentage (n=41)
Faible	11	26,83%	5	12,20%	2	4,88%
Moyenne	8	19,51%	7	17,07%	2	4,88%
Abondante	1	2,44%	2	4,88%	3	7,32%

Fig 3: Distribution of RPH cases according to metrorrhagia characteristics

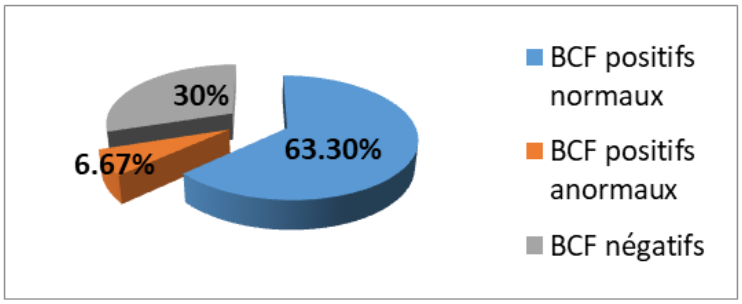

Fig 4: Distribution of patients according to the presence or absence of Fetal Heart R*h*ythms

In our observations, ultrasound was performed in only 42 patients. It allowed to complete the diagnosis of RPH in 8 cases, a frequency of 19, 4%, and to make the diagnosis in the absence of clinical signs for 1 patient. Therapeutic management was based on reanimation measures and uterine evacuation, taking into account the obstetrical circumstances and evolution of the retroplacental hematoma. Cesarean section was the main mode of delivery, with a frequency of 71.66% (n=43). In our series, it was essentially indicated for fetal rescue in 69.7%.

Indication de la césarienne	Nombre de cas (n=43)	Pourcentage %
Suspicion d'HRP avec BCF+	23	53,49%
Souffrance fœtale aigue	6	13,95%
Placenta prævia	3	6,98%
Pré éclampsie sévère	3	6,98%
Echec d'activation	2	4,65%
Procidence du cordon	1	2,33%
Présentation transverse	1	2,33%
Syndrome de prérupture	1	2,33%
Macrosomie	1	2,33%
Bishop défavorable	1	2,33%

Fig 5: Distribution of patients according to cesarean section indications

Finally, the fetal prognosis was dominated by perinatal mortality (41.6%). The main fetal complications in live births were prematurity, t (55% of cases), followed by hypotrophy in 40.00% of cases and neonatal suffering in 28.33% of cases. While the overall maternal prognosis was quite good, there were no deaths. The main maternal complications were anemia (6.66%) and delivery hemorrhage (13.33%).

Complications	Nombre de cas (n=60)	Pourcentage %
Anémie	34	56.66%
Anémie +Thrombopénie	4	6,67%
CIVD	2	3,33%
Insuffisance rénale fonctionnelle	2	3,33%
Insuffisance rénale organique	2	3,33%
Etat de choc	8	13.33%
Hémorragie de délivrance	8	13,33%
Embolie pulmonaire	1	1,67%
Inertie utérine	3	5,00%
Endométrite	2	3,33%
Apoplexie utérine	4	6,67%

Fig 6: The main maternal complications

Complications fœtales	Nombre de cas	Pourcentage %
Prématurité	33	55,00%
Hypotrophie	24	40.00%
Souffrance néonatale	17	28.33%
Détresse respiratoire	12	20,00%
Infection materno-fœtale	2	3,33%
Ictère néonatale	1	1,67%
Hydramnios	1	1,67%
Oligoamnios	1	1,67%

Fig 7: The main foetal complications

DISCUSSION

The incidence of RPH varies between epidemiological studies, mainly based on national registries [6]. These differences are partly explained by differences in the population (composition and lifestyle) but also in the diagnostic criteria used. The frequency of occurrence of RPH is higher in the USA than in Northern Europe. Its incidence is increasing, particularly in the black American population (+92%), which is more exposed to the vascular and metabolic complications of pregnancy and whose consumption of toxic substances is greater [6]. Conversely, the incidence of RPH appears to be decreasing in Finland (-31%) [7]. The main risk factors are reported in Fig 8, to which should be added physical trauma, especially abdominal trauma [8].

Facteurs de risque d'hématome rétroplacentaire (HRP) dans la littérature [1,2,7,12–15].

Facteurs de risque	*Odds ratio*	Niveau de preuve
Constitutionnels		
Âge maternel ≥ 35 ans	1,2–2,6	2/3
Âge maternel < 20 ans	0,7–1,5	2/3
Parité ≥ 3	1,1–1,4	2
Thrombophilie	1,4–7,7	2/3
Exogènes		
Tabac	1,4–2,5	2/3
Alcool	1,6–2,8	2/3
Cocaïne	3,9–8,6	2/3
Maternofœtaux		
Fécondation in vitro	1,38	3
Grossesse multiple	2,0–2,9	2/3
Fœtus de sexe masculin	1,2–1,3	2/3
Retard de croissance intra-utérin	1,3–4,1	2/3
Prématurité	1,6	3
Vasculo-rénaux		
Antécédent de pré-éclampsie	1,9	2
HTA chronique	1,8–3,1	2/3
HTA gravidique	1,5–4,5	2/3
Pré-éclampsie	1,7–4,4	2/3
Pré-éclampsie surajoutée à une HTA chronique	2,8	2
Placentaires		
Antécédent d'hématome rétroplacentaire	3,2–25,8	2/3
Placenta prævia	3,2–5,7	3
Métrorragies ≥ 28 SA	12,3–18,7	3
Insertion vélamenteuse du cordon	2,5	3
Amniotiques		
Chorioamniotite	1,1–3,3	2/3
Rupture prématurée des membranes	1,8–5,9	2
Oligoamnios	1,1–2,1	2/3
Oligoamnios sur rupture prématurée des	9,9	3

Fig 8: The main risk factors of RPH in literature

Concerning the diagnosis, metrorrhagia is found in 70 to 75% of cases of PRH, pain in 51 to 66% of cases and a non-reassuring fetal state in 60 to 69% of cases.

In total, the classic form is found in only one third of cases [8] and we find it in only 15% of our patients. The diagnosis at the patient's bed is therefore not always obvious. The fetal heart rate may be normal or show non-specific abnormalities (abnormal in 16 to 69% of cases [9]). If there is any doubt about the diagnosis and without delaying management, an ultrasound may be performed. A PRH can be visualized on ultrasound as a peripheral detachment of the placenta or as a thickening of the placenta, with a threshold of 5 to 6 cm, the echogenicity of which depends on the age of the hematoma [9]. While it has an excellent specificity (96%), its sensitivity appears to be low (24%) giving positive predictive values (PPV) of 88% and negative predictive values (NPV) of 53%.

In all cases, if the clinical presentation is typical, ultrasound is only used to confirm the diagnosis and should not delay management.

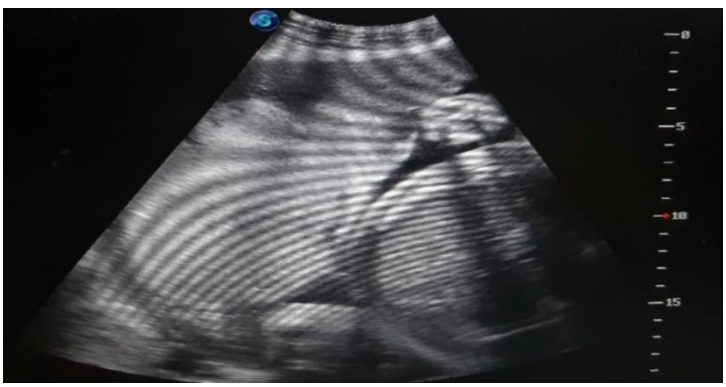

Fig 9: Ultrasound image of a retroplacental hematoma at the souissi maternity

Finally, the diagnosis of RPH will be easy in case of direct visualization of a hematoma on examination of the placenta, as was the case in 22 of our patients. On the opposite, anatomopathological examination has a sensitivity of only 30.2% (for a specificity of 100%), notably because a superacute RPH would not leave any histological stigma.

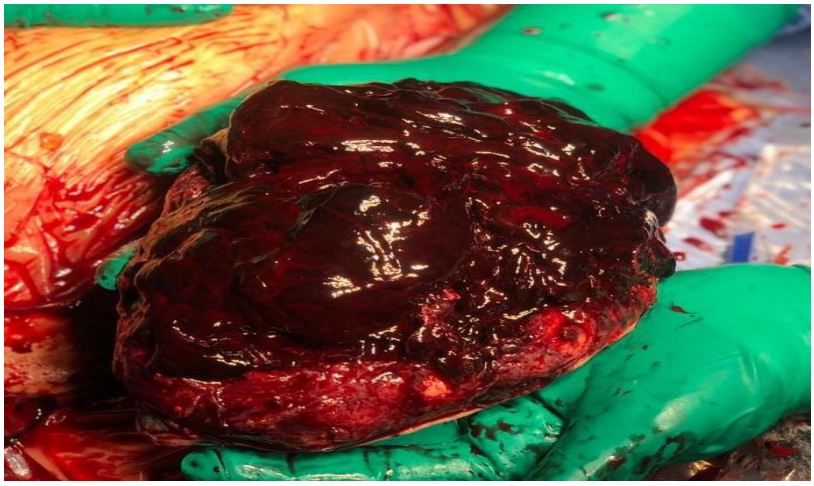

Fig 10: Direct visualization of a Retro placental hematoma on examination of the placenta

Concerning the delivery route, there seems to be a consensus [6] showing the superiority of caesarean section in case of live fetus. It should be noted that this should be carried out without delay since the reduction of extraction time to 20 minutes is accompanied by a significant reduction of neonatal mortality. On the other hand, in case of fetal death, the conservative attitude is to be preferred (stable hemodynamic state of the patient) associating induction of labor and close clinical and biological maternal monitoring [10].

Etiological treatment is then essential and childbirth often allows their resolution. It is associated with symptomatic maternal reanimation with vascular filling, transfusion of packed red blood cells, plasma, platelets and possible fibrinogen infusion. In our series, medical management allowed the correction of the majority of maternal complications. In one patient, a triple vascular ligature was necessary. No hysterectomy for Haemostasis was performed and there was no maternal death.

The maternal prognosis is mainly related to hemorrhage, more often by the formation of a large hematoma than by delivery hemorrhage, to which may be added disorders of hemostasis. There are more maternal complications in cases of fetal death.

In developed countries, maternal mortality has become exceptional. Disorders of hemostasis are present in 20 to 30% of cases and most often manifest themselves in the form of DIC. Regarding the neonatal outcome, 59% of cases are premature, 25% hypotrophy and 9.2% perinatal mortality.

Perinatal mortality is mainly composed of fetal death (77%). It should be noted that it can occur during hospitalization despite increased surveillance, which underlines the seriousness and unpredictability of the occurrence of RPH. Finally, inter-hospital transfers should never be carried out if there is any doubt about the presence of RPH, especially since the complete classical clinical triad is only rarely present [11].

CONCLUSION

RPH is a serious and confusing condition because of its unpredictability, variability in presentation, and rapid onset. The complete clinical triad is rarely present and the clinical signs of RPH are not specific. Caesarean section is very frequently performed in case of a live fetus and vaginal delivery is preferred in case of fetal death. It should be noted, however, that beyond the progress in neonatology, most perinatal mortality occurs in utero. The improvement of the fetomaternal prognosis requires better prenatal follow-up, early diagnosis, and rapid evacuation of the uterus without delay.

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