

PREDICTION OF PREGNANCY OUTCOME IN WOMEN WITH RETROCHORIAL HEMATOMA IN EARLY GESTATION: A LITERATURE REVIEW

Dustova N.K., Yangiyeva S.U., Sharipova F.Kh.

Abstract: Retrochorial hematoma (RCH) is a common pathological condition detected by ultrasound examination in women with a risk of miscarriage in early pregnancy. Despite the fact that in some patients the hematoma may not have a significant effect on the course of gestation, numerous studies confirm its association with an increased risk of adverse outcomes: spontaneous miscarriage, premature birth, placental abruption, and fetal growth disorders. The article presents current data on risk factors, pathogenesis, criteria for prognosis and management of pregnancy with retrochorial hematoma.

Key words: retrochorial hematoma, threat of miscarriage, pregnancy, prognosis, ultrasound diagnostics, biomarkers.

Introduction

Retrochorial hematoma is a collection of blood between the chorion and decidua, resulting from partial detachment of the chorion from the uterine wall. It is most often detected in the first trimester during ultrasound in women who complain of bloody discharge and pain in the lower abdomen. According to various authors, the prevalence of RCH ranges from 3% to 22% among all pregnancies [13,2].

Despite the possible favorable course, retrochorial hematoma is associated with an increased risk of adverse outcome, especially in the case of large hematomas and persistent symptoms. Reasonable prognosis can contribute to individualization of management and reduce the risk of perinatal loss.

Pathogenesis

RHG occurs as a result of hemorrhage between the chorion and endometrium, which can be provoked by implantation disorders, thrombohemorrhagic disorders, and increased vascular permeability. According to the authors [11], the pathological process may be associated with impaired remodeling of spiral arteries in the trophoblast implantation zone.

Particular attention is paid to the role of thrombophilia, hypercoagulable states, and autoimmune factors (for example, antiphospholipid syndrome), which can contribute to the formation of hematomas and an unfavorable pregnancy outcome [9].

Clinical manifestations

The clinical picture of RCH varies from an asymptomatic course (incidental finding on ultrasound) to severe pain syndrome and bleeding. Detection of RCH in combination with clinical manifestations (especially in the first 12 weeks of gestation) requires increased attention from the doctor.

Diagnostics

The main method for detecting RCH remains ultrasound examination. The hematoma is visualized as an anechoic or hypoechoic formation adjacent to the chorion. The size of the

hematoma, its location and ratio to the volume of the gestational sac are important prognostic signs.

Studies show that hematomas occupying more than 25-30% of the chorion area significantly increase the risk of an unfavorable outcome [12]. According to the study by Nyberg DA et al. (1996), the risk of miscarriage is up to 20% for small hematomas and exceeds 50% for large ones[10].

Prognostic factors

The main factors influencing the pregnancy outcome with RCH are:

Hematoma size. The larger the volume, the higher the risk (Tuuli MG et al., 2011).

Location. Posterior location (on the back wall of the uterus) is associated with a worse prognosis [Bennett GL et al., 2019].

Bleeding duration. Long-term persistent bleeding increases the likelihood of pregnancy loss.

Associated symptoms. Pain, tachycardia, and syncope may indicate hemodynamically significant blood loss.

Hormonal and coagulopathic markers. A decrease in the level of β -hCG, progesterone, as well as an increased concentration of D-dimer are associated with a poor prognosis [Check JH et al., 2010].

Additionally, new markers are being considered, including the level of PAPP-A and angiogenic factors (VEGF, PlGF), which may improve risk stratification [Dugoff L et al., 2004].

Approaches to management and prevention of complications.

There is no standardized protocol for the treatment of RCH. Management tactics vary depending on symptoms, hematoma size, and associated risk factors[9].

Discussion

Retrochorial hematoma (RCH) in early pregnancy remains an important prognostic finding that requires the attention of an obstetrician-gynecologist. Modern studies confirm that the presence of RCH increases the risk of complicated gestation. According to a meta-analysis by Tuuli et al. (2011), which included more than 6,000 cases, subchorionic hematoma is associated with an increased likelihood of spontaneous miscarriage (OR 2.18; 95% CI: 1.29–3.68), preterm birth (OR 1.62) and placental abruption (OR 1.59).

The size and location of the hematoma are key prognostic factors. The study by Bennett et al. (2019) noted that posterior localization and a volume exceeding 50% of the chorion area significantly increase the risk of termination of pregnancy. Such data emphasize the need for quantitative assessment in ultrasound.

RCH acquires particular clinical significance in women with high-risk factors: thrombophilia, antiphospholipid syndrome, multiple pregnancies and gestations after ART. In a retrospective analysis by Maso et al. (2005), in patients after IVF, the presence of RCH in the first trimester was associated with a more than 3-fold increase in the risk of miscarriage. Similarly, according to Kupfermink MJ (2014), women with hereditary thrombophilia (FVL, MTHFR, protein S and C) more often have gestation complications in the presence of hematomas, which explains the need for timely hemostasis examination.

In recent years, attention has also been paid to biomarkers. A number of authors (Dugoff L et al., 2004; Check JH et al., 2010) point to a correlation between a decrease in the level of PAPP-A, β -hCG and progesterone and a high frequency of complications in RCH. The introduction of complex panels of biomarkers allows not only to stratify the risk, but also to individualize the

management tactics. Thus, the discussion of the role of RCG in the pathogenesis of complicated pregnancy requires a comprehensive approach taking into account the volume, clinical symptoms, hormonal and hemostatic status of the patient. The introduction of standardized assessment scales and dynamic monitoring algorithms can significantly reduce the frequency of perinatal losses in this group.

Conclusion

Retrochorial hematoma in early pregnancy is a significant prognostic factor for possible complications of gestation. In clinical practice, it is necessary to take into account the size and location of the hematoma, the presence of symptoms, concomitant coagulopathies and hormonal changes. Early diagnosis and an individualized approach to the management of patients with RCH can increase the chances of a successful pregnancy outcome.

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