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Conservative Management of Placental Hematomas with Dydrogesterone: A Case Series

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Abstract: ***Placental hematomas are relatively common findings in early and mid-pregnancy and are managed predominantly with conservative, expectant strategies. However, evidence specific to placental hematomas remains limited. This case series describes our experience with four pregnancies complicated by placental hematomas and managed conservatively with dydrogesterone-based therapy. Case series: Four patients are presented. Their ages ranged from 22 to 28 years. They had retroplacental or intraplacental hematomas of varying sizes diagnosed during obstetric ultrasonography. All patients were treated with supportive therapy and dydrogesterone 30 mg per day. In all four patients the pregnancy was successfully carried to term, and they all delivered healthy babies. Taken together, the literature and our series support dydrogesterone as a preferred option associated with placental hematomas, while underscoring the need for larger, dedicated trials.***

Keywords: Dydrogesterone, Placental hematoma, Placental abruption, Miscarriage, preterm birth

1. Introduction

Placental hematomas are common sonographic findings in early pregnancy. They are reported in about 1–3% of the general obstetric population and occur more often in symptomatic women. They are linked to higher risks of miscarriage, preterm birth, preterm premature rupture of membranes, and placental abruption.[1,2]

Among available therapies, progesterone and related compounds have shown consistent benefit. Progesterone supports early gestation by promoting endometrial receptivity, modulating immune tolerance, and maintaining myometrial quiescence, with the strongest recommendations being for the use of vaginal micronized progesterone.

Observational data involving a retrospective cohort of 1,144 pregnancies with subchorionic hematomas subgroup associated DYD use with lower miscarriage before 20 weeks (adjusted OR≈0.28).[3]

We have recently treated several patients with placental hematomas using DYD and observed variable clinical courses. Given the mixed literature, we aim to describe our cases to add practice-proximal evidence and help refine hypotheses for future trials.

2. Case Series

Case I:
A 22-year-old G1P0 woman presented at 24 weeks' gestation for routine antenatal evaluation with abdominal pain and uterine irritability and was noted to have the onset of contractions**.** A detailed fetal assessment, including fetal echocardiography**,** revealed a heterogeneous, thickened placenta with a diffuse, full-length retroplacental hematoma extending along the entire placental surface, while fetal cardiac structure and growth parameters remained normal. She was clinically stable but considered at increased risk for miscarriage and placental insufficiency due to the extent of placental involvement.

The patient was initiated on a structured medical regimen**,** with DYD 30 mg sustained-release (synthetic progesterone) once daily as the principal therapy to promote endometrial stability, reduce uterine contractility, and support continuation of pregnancy. Tranexamic acid and ethamsylate were added to minimize further bleeding and prevent hematoma expansion. Additional supportive therapy consisted of Vitamin C and Calcium with L-arginine to enhance uteroplacental perfusion and reduce uterine irritability. Low-dose aspirin was appropriately discontinued due to active hematoma. On follow-up obstetric ultrasonography performed in the third trimester (28th week), the placenta appeared anterior and normal, with no retroplacental hematoma or abnormal collection, indicating substantial radiologic resolution. Fetal biometry corresponded to gestational age, liquor volume was adequate, and fetal cardiac activity and growth were appropriate, reflecting a favorable therapeutic response.

She was advised to continue DYD therapy with routine antenatal monitoring until delivery. Contractions began two days after stopping the medication. She delivered at 37 weeks by cesarean section, with a healthy 3 kg infant and no postpartum complications.

Case II

A 26-year-old primigravida (G1P0) presented in mid-pregnancy, Gestational age 28 weeks for routine evaluation, during which obstetric ultrasonography revealed a posterior placenta with a well-defined retroplacental hematoma measuring approximately 44 × 13 mm. There were internal moving echoes suggestive of active hemorrhage, while fetal growth parameters and cardiac activity remained within normal limits **(Figure 1).** A diagnosis of threatened miscarriage secondary to retroplacental hematoma was made. Medical management was initiated with DYD SR 30 mg as the central therapy to promote endometrial stability and suppress undue uterine activity. This was accompanied by supportive medications including iron–folate supplementation, calcium, methylcobalamin–B-complex and an antioxidant formulation to optimize maternal metabolic milieu and enhance placental circulation. On subsequent follow-up, repeat ultrasonography demonstrated complete resolution of the hematoma with restoration of normal placental appearance, appropriate interval fetal growth, adequate liquor volume, and a structurally normal fetal heart on fetal echocardiography. Maternal–fetal status remained stable, and DYD therapy was continued until delivery. At 38 weeks, she delivered a healthy 2.4-kg infant via cesarean section, with no postpartum complications.

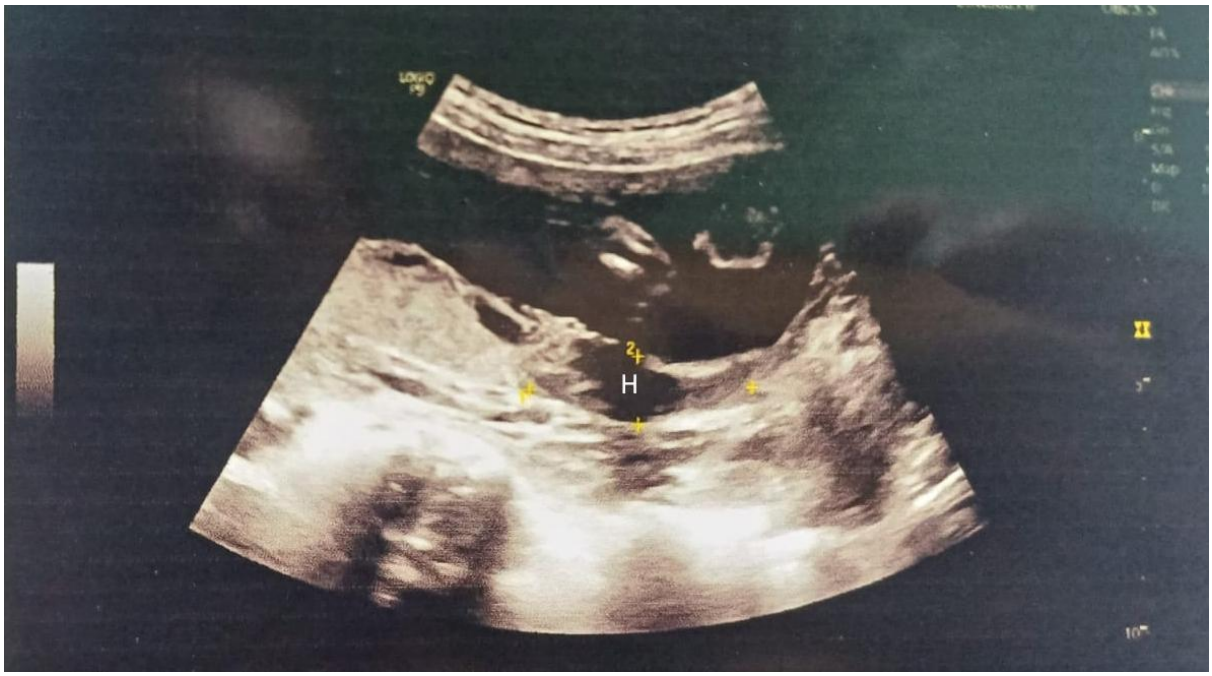

Figure 1: Ultrasound scan showing the placental hematoma (H).

Case III

A 24-year-old primigravida (G1P0) presented for routine evaluation with symptoms of uterine irritability but with no pain at approximately 24 weeks' gestation. Ultrasonography demonstrated a liquefied retroplacental hematoma at the fundal end of the placenta measuring 26 × 27 mm near the cord insertion. There were a few internal moving echoes indicating partial activity, while fetal cardiac evaluation on fetal echocardiography remained structurally and functionally normal. Given the risk of miscarriage and potential placental insufficiency, medical management was initiated, including DYD 30 SR to enhance luteal support and stabilize the deciduo-placental interface. In addition, adjunctive therapy was given comprising iron–folate, calcium, L-arginine, multivitamin/antioxidant supplementation, and high-protein nutritional support to optimize placental perfusion and fetal growth On follow-up at 27 weeks' gestation, clinical and Doppler findings showed reassuring fetal parameters with no evidence of progression of the hematoma, and maternal condition remained stable. DYD was maintained throughout the remainder of pregnancy until term. The patient ultimately delivered at approximately 38 weeks of gestation,, resulting in a healthy neonate weighing 2.8 Kg with favorable perinatal outcomes and no postpartum complications**.**

Case IV

A 26 year-old G1P0 patient presented at 16 weeks' gestation for routine obstetric assessment with complaints of frank vaginal bleeding. Ultrasonography and fetal echocardiography revealed a structurally normal fetal heart with normal atrioventricular connections, preserved ventricular function, and no pericardial or pleural effusion. A large intra-placental active hematoma measuring 83 × 36 mm was present**,** located at the site of umbilical cord insertion. The placenta appeared heterogeneous. Cervical length was adequate, and no additional fetal anomalies were detected for the corresponding gestational age. A diagnosis of threatened miscarriage secondary to intra-placental hematoma was made. The patient was initiated on DYD 30 mg/day to stabilize the endometrium and reduce uterine irritability, along with standard supportive therapy including L-arginine to improve uteroplacental perfusion, hematinics**,** calcium**,** and antioxidant support (Coenzyme Q10/ubidecarenone). Conservative management with activity modification and close sonographic monitoring was advised. On subsequent follow-up, the patient demonstrated stable maternal–fetal status, with appropriate interval fetal growth and no progression of the hematoma. Therapy was continued until delivery. She achieved an uncomplicated term delivery at 36 + 2 weeks, and the neonate, weighing 2.4 kg, showed

favorable postnatal adaptation with no maternal or neonatal complications.

3. Discussion

A placental hematoma is a collection of blood either within or adjacent to the placental–maternal interface. Classified by location, these hematomas may be subchorionic, retroplacental, intraplacental, and subamniotic.[4–6] The subchorionic (marginal) hematomas are the most common type encountered on early-pregnancy ultrasonography.[6–9] They develop from partial detachment of the chorionic membranes from the uterine wall or basal decidua (for subchorionic), and rupture of small decidual or spiral arterioles (for retroplacental), particularly in the setting of maternal vascular disease or impaired placentation.[5,7,10] Preeclampsia is associated with an increased risk of retroplacental bleeding via arteriolar injury and decidual ischemia.[7,8,11,12]

Placental hematomas cause a spectrum of adverse pregnancy outcomes. There are associations with miscarriage, preterm delivery, fetal growth restriction, placental abruption, cesarean delivery, fetal distress, and neonatal intensive care unit admissions among pregnancies with identified hematomas.[5,7,8,13] In one retrospective series, intraplacental hematomas carried the highest risks of placental insufficiency, fetal growth restriction, and preterm rupture of membranes, while retroplacental hematomas showed a higher rate of intrauterine fetal death.[13]

Management

The management of placental hematoma remains conservative, and expectant management with close maternal and fetal surveillance is the mainstay of care. Serial ultrasonography is recommended to monitor hematoma evolution, fetal growth, and placental function. Doppler studies can help identify early signs of placental insufficiency or fetal compromise. [2] Bed rest and pelvic rest are often advised to minimize mechanical stress, although evidence supporting these measures is limited. [14]

In cases complicated by large retroplacental hematomas or evidence of fetal growth restriction, hospitalization may be warranted for closer monitoring. Corticosteroids are indicated if preterm delivery is anticipated to enhance fetal lung maturity, while tocolytics may be considered in the presence of preterm contractions. [14] Anticoagulant or antiplatelet agents are generally avoided unless there is a coexistent maternal prothrombotic condition such as antiphospholipid syndrome. [2] Ultimately, individualized care, based on the balance of maternal and fetal risks, remains essential. Small hematomas detected early in pregnancy often resolve spontaneously, while large or persistent lesions carry increased risks of placental abruption, intrauterine growth restriction, and preterm delivery. [15]

Progesterone therapy, particularly DYD and micronized progesterone, has been studied as an adjunctive measure. Pelinescu-Onciul [16] reported a markedly lower abortion rate (7%) in subchorionic hematoma cases managed with DYD when compared with a previous cohort in which micronized progesterone was used (18.7%).

Immunomodulatory effects

DYD exhibits potent immunomodulatory properties that contribute to maternal–fetal immune tolerance. Successful implantation and early pregnancy depend on a shift from a Th1-dominant inflammatory environment toward a Th2-dominant cytokine profile. DYD has been shown to suppress pro-inflammatory Th1 cytokines such as TNF-α and IFN-γ while enhancing Th2 cytokines including IL-4 and IL-10, thereby promoting an immunologic milieu favorable to pregnancy maintenance. [17] A key mediator of the immunologic action of progesterone is the progesterone-induced blocking factor (PIBF). Kalinka and Szekeres-Barthó [18] found that DYD therapy markedly increases PIBF levels, leading to reductions in natural killer (NK) cell cytotoxicity and enhancement of regulatory immune pathways essential for trophoblast protection. Through PIBF-mediated signaling, DYD promotes the expansion of regulatory T cells and downregulates cytotoxic immune responses at the maternal–fetal interface.

By modulating cytokine balance and promoting PIBF-dependent immune tolerance, DYD serves as an important therapeutic option for women with immune-mediated reproductive disorders. Pelinescu-Onciul[16] noted earlier sonographic improvement such as cessation of hematoma growth and signs of decidual revascularization which appeared within the first week of DYD therapy. These observations suggest that DYD may offer stronger immunomodulatory and clinical benefits than natural progesterone in this setting, although controlled head-to-head trials remain limited.

Uterine quiescence is a direct consequence of these immunomodulatory effects. Progesterone and its analogues exert a direct relaxant effect on the myometrium by downregulating oxytocin receptors and connexin-43. They also reduce calcium influx into smooth muscle cells.[19] In addition, dydrogesterone suppresses synthesis of prostaglandins, which are mediators of uterine contractility.[20] The drug-induced immunomodulatory shift toward a Th2-dominant cytokine profile [21] and the consequent production of PIBF in turn inhibits the inflammatory pathways implicated in preterm uterine activation.[22] Overall, dydrogesterone reduces myometrial excitability and stabilizes the intrauterine environment, and its use particularly in early pregnancy reduces uterine irritability and improved pregnancy continuation rates in women at risk [23, 24]

Although these findings suggest a potential therapeutic role, the evidence remains equivocal, and no consensus guidelines currently recommend routine pharmacologic therapy solely for placental hematoma. High quality randomized data specifically testing DYD in pregnancies complicated by ultrasound-confirmed subchorionic hematomas are limited, and supportive trial evidence is not robust. From the Philippines a randomized study in subchorionic hematomas compared bed rest plus DYD vs bed rest alone, and found no significant differences in miscarriage, hematoma resolution, or delivery outcomes.[25]

Therapy appears to be safe, but absence of benefit in some RCTs underscores the need for careful patient selection and

for trials enriched for SCH phenotypes (e.g., large hematomas) to define when, if ever, DYD confers clinically meaningful benefit.[26]

4. Conclusions

In this case series, all patients presenting with placental hematoma experienced favorable outcomes, underscoring that such pregnancies can progress safely when appropriately managed. Initial management should be conservative, since most placental hematomas resolve or stabilize with time and adequate hormonal support.

Progesterone plays a central role in maintaining early pregnancy by supporting the luteoplacental unit, stabilizing the endometrium, enhancing immune tolerance, and reducing uterine contractility, thereby decreasing the risk of hematoma expansion or pregnancy loss. Within clinical practice, the two main therapeutic options are micronized progesterone and DYD, both widely available and generally well tolerated. However, while both agents are used for similar indications, the emerging body of evidence suggests important differences in clinical performance.

DYD's superior oral bioavailability, more predictable pharmacokinetics, and consistent symptom relief may confer advantages in reducing bleeding, alleviating pain, and lowering miscarriage rates. Our case series aligns with this broader trend. Patients treated with DYD demonstrated reassuring clinical progress and pregnancy continuation.

Continued research with larger cohorts will help refine treatment algorithms and strengthen evidence-based care for this common and distressing pregnancy complication.

Conflicts of interest
The authors declare no conflicts of interest.

Ethical considerations
All patients provided informed consent for the use of anonymized images from their diagnosis and treatment for research purposes, ensuring that all identifying information would be removed. Written informed consent was obtained from the patients described in this case series.

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