



## Association Between Subchorionic Hematoma In The Second Trimester With Abnormal Placenta Insertion

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**Abstract:** Subchorionic hematoma (ScH) is an echo-free crescent-shaped area located between the chorionic membrane and the myometrium of the uterus, with an incidence ranging from 1.3% to 3.1%. Often observed during the first trimester, ScH can be associated with intermittent vaginal bleeding and spotting. Despite its relative rarity, ScH has the potential to cause severe pregnancy-related complications, including miscarriage and placental abruption. The exact etiology of ScH remains unclear, though factors such as assisted reproductive techniques and the use of low-molecular-weight heparin are considered potential risk factors. ScH can present with a range of symptoms, from asymptomatic to severe vaginal bleeding and non-specific pelvic pain, and is typically identified through routine ultrasonography. ScH is classified based on its diameter relative to the gestational sac and the surrounding ratio. Complications associated with ScH include early pregnancy issues such as miscarriage and late complications like oligohydramnios, premature rupture of membranes (PPROM), preterm delivery, and intrauterine growth restriction. This study explores the relationship between abnormal placentation, ScH, and clinical manifestations in the second trimester, revealing that abnormal placentation is more prevalent in cases of ScH.

**Keywords:** Subchorionic hematoma, Placenta insertion, Gynecology & Obstetrics.

### INTRODUCTION

A crescent-shaped, echo-free region located between the uterine myometrium and chorionic membrane is known as a subchorionic hematoma (ScH). 1.3% to 3.1% is the range of incidence [1]. Especially in the first-trimester gestational period, ScH is reasonable for intermittent vaginal bleeding and spotting. Nevertheless, subchorionic hematoma is rare and may cause severe pregnancy-related complications (miscarriage, abruption of the placenta). The exact cause of ScH is unknown, however using low-molecular-weight heparin may be a risk factor in addition to increased assisted reproductive procedures [1]. Vaginal bleeding, clinically spotting to severe, non-specific pelvic pain ScH, can be asymptomatic and may be diagnosed in routine ultrasonography examinations [2].

Hematomas are categorized as tiny, medium, or large based on their diameter, which is comparable to that of the gestational sac [3]. Another classifying factor is the ratio of the ScH surrounding to the gestational sac[4]. Early pregnancy complications associated with subchorionic hematoma (ScH) include missed miscarriages, full or partial abortions, and late pregnancy complications that have become more common include oligohydramnios, preterm delivery, premature rupture of membranes (PPROM), and intrauterine growth

restriction [5-7].

The purpose of this study was to ascertain the connection between subchorionic hematoma, aberrant placentation, and clinical manifestation during the second trimester. In the ScH instances in our investigation, aberrant placentation was more complex.

### MATERIAL AND METHODS

The study was conducted retrospectively, using patient files, images, and ultrasonography reports from an obstetric examination. The ultrasonography reports, archive files, and image records of 50 patients in the second trimester with vaginal bleeding at the Obstetrics Department between February 2024 and August 2024 were reviewed. We detected nine patients diagnosed with placenta previa, and one patient with placenta circumvallate with ScH. Patients' ultrasonography reports visual hematoma measurements, and clinic profiles were recorded.

Three ScH cases in total—multiple pregnancies and pregnancies aided by supportive reproduction techniques—were disqualified due to the use of low molecular heparin, progesterone, or acetylsalicylic acid. Anamnesis information was used to gather patient data, including surgical history, age, parity, gravida, and

method of pregnancy formation. Complaints made by the patient upon admission were also identified and documented. The ScHs were categorized in our study based on the region that lies between the placenta and the myometrium. The measurements were assessed by the same ultrasound and one obstetrician. The patients were compared based on placenta features, early complication status, hematoma size, and gestational age.

### Statistics

The collected data were analyzed using the SPSS (SPSS Inc., Chicago, USA) 23.0 Package program and Excel (Microsoft Corporation, USA) 2016 versions. The data were summarized with descriptive statistics and visualized with various graphs.

### RESULTS

During the study period, 50 pregnant women with ScH and vaginal hemorrhage were seen in the Obstetrics and Gynecology outpatient facility. The women were assessed in the second trimester. The average age of the patients was determined to be 28.2 years, with a range of 21 to 38 (min-max); the mean hematoma diameter was measured to be 3 cm, the mean gestational week to be 25 weeks and 2 days, and the mean gravity to be 2.

**Table 1 :** Clinical characteristics of patients with ScH

<b>Age (Mean)</b>	<b>26.2</b>
<b>Gestational Week</b>	25 w+2 d
<b>Gravity (n)</b>	1
<b>Hematoma Measurement</b>	1.8

Abnormal placentation for four patients with Sch; 3 patients diagnosed placenta previa marginalis and 1 patient placenta circumvallate.

<b>Age (Mean)</b>	28.1
<b>Gestational Week</b>	26 w+1 d
<b>Gravity (n)</b>	2
<b>Hematoma Measurement</b>	2.3

### DISCUSSION

We found similarities between Sch in the second trimester and Sch's complex aberrant placentation characteristics. Numerous research points to the XXX Literature's incidence of SCH in women experiencing vaginal bleeding. According to the Pearlstone analysis, the range of SCH in individuals experiencing vaginal hemorrhage is quite broad, ranging from 4% to 22% [8]. The placenta is considered low-lying when its edge on a transvaginal ultrasonography (TVS) measure between 0.1 and 2.0 cm from the internal cervical os. Placenta previa is diagnosed on TVS when its border covers the internal cervical os. Placenta implantation in the lower part of the uterus can increase vascularity and result in separation brought on by ScH (9). A morphological anomaly is a circumvallate placenta.

Especially early first-trimester bleeding and Sch was found to be at higher risk for pregnancy loss. More research is necessary to fully comprehend the impact of anomalous placentation in the second trimester in complex Sch.

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