



## HISTOPATHOLOGICAL CHANGES IN PRODUCT OF CONCEPTION

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**ABSTRACT**

**INTRODUCTION :** The main explanation of routine histopathologic examination of merchandise of conception is to discover associate degree extrauterine pregnancy or a abnormality, that need more management. Retained merchandise of conception (RPOC) are a typical and treatable complication when delivery or termination of maternity. The pathologic diagnosis of RPOC is made based on the presence of chorionic villi, which indicates persistent placental or trophoblastic tissue.

**AIM :** To evaluate the histopathologic findings regarding tissue samples collected at surgical female internal reproductive organ evacuation in first-trimester spontaneous miscarriages.

**METHODS:** In this retrospective study, histopathologic diagnosis of the tissue samples obtained via surgical uterine evacuation in patients in a 12-month period with the diagnosis of incomplete miscarriage (n = 70), missed miscarriage (n = 21), complete miscarriage (n = 3) and blighted ovum (n = 6) in the first trimester was recorded and compared with the pre-surgery diagnosis.

**RESULT :** Among 100 cases of spontaneous abortions, products of conception was seen in 69 (69%) and with only 2 cases of choriocarcinoma. Majority of cases belongs to cohort 21-30 years. The most common decidual changes were inflammation (39%) followed by fibrin deposition 29%. Majority of the cases shows hydropic changes as histopathological changes in sac villi. In the present study, minimum age of lady was 18 years and the maximum age was 40 years. Among the cases, maximum 76 (76%) of them belonged to age group 21-30 years. Correlating the age group with number of abortions was found to be significantly different among four different age groups.

**CONCLUSION :** By routine histopathologic assessment of product of first-trimester spontaneous miscarriages, important pathologies like abnormality and placental tissue layer sickness are often diagnosed. Histopathological assessment has nice worth within the identification of Associate in Nursing ectopic gestation or infection in comparison with clinical and laboratory findings.

**KEYWORDS :****INTRODUCTION :**

The main explanation of routine histopathologic examination of merchandise of conception is to notice Associate in Nursing ectopic gestation or a abnormality, which require further management. Retained merchandise of conception (RPOC) area unit a standard and treatable complication when delivery or termination of physiological condition. The pathologic diagnosis of RPOC is made based on the presence of chorionic villi, which indicates persistent placental or trophoblastic tissue.

The United States Centres for Disease Control and Prevention and the World Health Organisation define miscarriage as "pregnancy termination before 20-week gestation or a foetus born weighing less than 500 g"

Miscarriage is one of the most common first-trimester conditions encountered by obstetricians and gynecologists. Approximately 10–20% of clinical pregnancies are lost spontaneously during the first trimester, which is defined as the first 12–14 weeks of gestation.

Traditionally, most women who had spontaneous miscarriage have undergone surgical uterine evacuation of retained products of conception (RPOC). In recent years, more women are being treated on an outpatient basis and more refined diagnostic techniques and therapeutic interventions are being applied.

The diagnosis is based on clinical presentation, quantitative HCG, ultrasound, and pathologic evaluation.

At our institution Saveetha medical college and hospital, the RPOC passed spontaneously or removed during surgical or medical evacuation are routinely subjected to histopathological examination. To evaluate the histopathologic findings concerning tissue samples collected at surgical female internal reproductive organ evacuation in first-trimester spontaneous miscarriages.

**METHOD :**

This is a cross sectional study done in Saveetha Medical College and Hospital. All cases with the diagnosis of spontaneous abortion during the period of December 2017 to January 2018 were included in this study. Those cases with medical termination of pregnancy and ectopic pregnancy including those who failed to provided consent were excluded from this study. The products of conception were received in 10% formalin at the department of pathology, Saveetha Medical Hospital. After gross examination of the specimen, tissue processing

was done using automatic tissue processor. Specimens were processed and embedded in paraffin wax. The sections of 3- 5 micrometer thickness were obtained and stained with Haematoxylin & Eosin. All slides were examined by two pathologists separately and reported accordingly. Averages of five blocks were examined for each patient, and additional blocks were sometimes required to detect chorionic villi. An intrauterine maternity was confirmed if foetal tissues, trophoblasts, or sac villi were known additionally to different tissues, like deciduae or humour mucous membrane. A recent intrauterine pregnancy was suggested by the presence of deciduae or the identification of an Arias-Stella reaction, but this did not exclude the possibility of an ectopic pregnancy. For each patient, the report included a note about the decidua changes, including a molar pregnancy, age correlation of pregnancy. Data presented as statistical analysis was done.

**RESULT :****Table:1 Age wise correlation of spontaneous abortion**

During the observation, it is seen that most of spontaneous abortion was between the age of 21-30 about 76 cases was seen during this age group. In the age group of 20 and below about 13 cases is seen. In the age group of 30-40 about 9 cases was seen. And in the age group of women above 40, only 2 cases was seen.

AGE	NO. OF CASES	PERCENTAGE
Less than 21	13	13%
21-30	76	76%
31-40	9	9%
More than 40	2	2%

**Table 2: Histopathological diagnosis**

HISTOPATHOLOGICAL DIAGNOSIS	No. Of cases	Percentage
product of conception	69	69%
decidua without chorionic villi	23	23%
partial hydatid mole	3	3%
Complete hydatid mole	3	3%
choriocarcinoma	2	2%

The different histopathological diagnosis observed are product of conception, choriocarcinoma, decidua without chorionic villi, partial hydatid mole, complete hydatid mole. The majority of cases are diagnosed with product of conception followed by decidua without chorionic villi. The number of cases that account for product of conception are 69, only 2 cases show choriocarcinoma. About 23 cases are diagnosed as decidua without chorionic villi. The partial and

complete hydatid mole each are seen in 3 cases.

**Table 3: Decidual changes**

Decidual changes	No. Of cases	Percentage
Inflammation	39	39%
Fibrin deposition	29	29%
Oedema	21	21%
Haemorrhage	7	7%
Necrosis	4	4%

Various decidual changes observed inflammation, fibrin deposition, oedema, haemorrhage and necrosis. Inflammation is seen in about 39 of cases. Secondly, fibrin deposition is seen in 29 cases. Oedema is seen in 21 cases. Haemorrhage in 7 cases and necrosis in only 4 cases.

**Table 4: Type of miscarriage**

The four main types of miscarriage seen in the data collected are incomplete miscarriage, complete miscarriage, missed miscarriage and blighted ovum. The commonest type of miscarriage encountered is the incomplete miscarriage which is seen in about 70 cases. Following, the incomplete miscarriage is the missed miscarriage which is seen in 21. The blighted ovum is seen 6 cases. The complete miscarriage is rarely seen in only 3.

TYPES OF MISCARRIAGE	No. Of cases	Percentage
Incomplete miscarriage	70	70%
Missed miscarriage	21	21%
Blighted ovum	6	6%
Complete miscarriage	3	3%

#### DISCUSSION :

This study aim to judge the histopathologic findings regarding tissue samples collected at surgical female internal reproductive organ evacuation in first-trimester spontaneous miscarriages. Of the observation made at our institute, the following histopathological changes and decidual changes was noticed. The histopathological changes observed are product of conception, choriocarcinoma, decidua without chorionic villi, partial hydatid mole, complete hydatid mole. And the decidual changes are inflammation, fibrin deposition, oedema, haemorrhage and necrosis. And the types of miscarriage are incomplete miscarriage, blighted ovum, complete miscarriage, missed miscarriage.

There is currently a growing body of proof, based on pathological data, that many miscarriages may be associated with impaired early trophoblastic invasion, premature intervillous-space blood flow, fragmentation of the trophoblastic shell and subsequent oxidative damage, although not all studies support these findings. However, despite these general findings, there remains poor correlation between specific histological features and the aetiology of the miscarriage, and recurrent spontaneous abortion cannot be reliably distinguished from sporadic losses on this basis. Furthermore, the identification of many such pathological features requires placental bed biopsies, an additional sampling technique not used as part of routine therapeutic uterine evacuation. Although implantation site fragments may be present in routinely evacuated material and can provide some information regarding trophoblastic invasion, extrapolation of events deeper in the placental bed from superficial decidual fragments may be misleading.

We have demonstrated that there is a relative paucity of data examining the role of routine histopathological examination of evacuated products of conception in recurrent spontaneous abortion. Such examination remains clinically indicated because it may allow the identification of important specific etiological entities in a minority of cases but, for most patients, clinical management will not be influenced by the histopathological findings. We suggest that an optimised protocol should be developed for the histopathological evaluation of products of conception in recurrent spontaneous abortion based on currently available evidence, and prospective efforts should be made to use new technologies such as RT-PCR and micro-array profiling to maximise the future clinical information yield from these specimens.

In conclusion, considering the findings of our study, the cost of histopathological examinations, and the low incidence of molar pregnancies in saveetha medical college, we can say it may not appear reasonable to perform these examinations routinely after all first-

trimester miscarriage. We recommend that histopathological examination be performed in select instances: when the diagnosis is uncertain preoperatively, when fewer tissues than expected have been obtained, when ultrasound suggests a molar pregnancy, once patients are thought of of high risk for membrane unwellness, or when inspection during surgery suggests unexpected pathology.

To our data, this study is that the 1st native study that evaluated routine histopathological examination once first- trimester miscarriage. It is a hospital-based study and its findings increase the importance of a nationwide study to guide the revision of practice at a national scale in Saveetha medical college.

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