



# Journal of Health and Medical Sciences

**Naseer, Shazma, Hassan, Saddiqa, Javaid, Mishal, Zubair, Muhammad, Ali, Noraiz, Bashir, Ahmad Ullah, Riffat, Hira, Farooq, S. Muhammad Yousaf, Bacha, Raham, and Manzoor, Iqra. (2019), Determination of Sonographic Concerning Signs Leading to Abortion. In: *Journal of Health and Medical Sciences*, Vol.2, No.4, 575-580.**

ISSN 2622-7258

DOI: 10.31014/aior.1994.02.04.88

The online version of this article can be found at:  
**<https://www.asianinstituteofresearch.org/>**

Published by:  
The Asian Institute of Research

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# Determination of Sonographic Concerning Signs Leading to Abortion

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## Abstract

**Background:** Pregnancy is considered as an important period in the women's life. Not only environmental health condition influences the life quality of the mothers, but may also effects the fetus and cause hereditary disease. Millions of women do not have access to proper health services in future worldwide. The mains purpose of the rural pregnant women protection program is maintaining health and furnishing during the course of pregnancy by protecting the mother and fetus. The aim of the study here is to determine the sonographic signs leading to abortion. **Objective:** Determination of sonographic concerning signs leading to abortion. **Methodology:** HONDA HS2600 and HONDA GE p7 of 2.8-3.5 MHz Convex probe is used. AIUM procedures for obs and gyne are followed for the scanning procedures. The study was conducted at Indus Hospital, Manawan. Data of 60 patients was collected through convenient sampling. Statistical software for social sciences (SPSS version 22.0) is used for the analysis of data. **Results:** Out of 54 patients, 38 patients had vaginal bleeding and 16 patients came out without vaginal bleeding. In table 3, sonographic findings of the patients were illustrated. As the data was collected of 54 patients, among these, 11 patients (20.4%) had blighted ovum, 1 patient (1.9%) had CRL with negative FCA, 5 patients (9.3%) had haematoma, 3 patients (5.6) had fetal hydrops, 1 patient (1.9) had irregular low lying placenta, 19 patients (35.2%) had missed abortion. 6 patients (11.1%) had open internal os, 1 patient (1.9%) had previa type 3, 1 (1.9%) had previa type 1. 2 patients (3.7%) had recurrent abortion. 1 patient (1.9%) had scalping of bones and 3(5.6%) had scanty liquor. **Conclusion:** There are multiple sonographic concerning signs but missed abortion and blighted ovum were the most common amongst them.

**Keywords:** Spontaneous Abortion, Gravidity, Ultrasonography, Missed Abortion

## Introduction

Spontaneous abortion is the most common complication of early pregnancy. Spontaneous abortion, or miscarriage, is defined as a clinically recognized pregnancy loss before the 20th week of gestation (Regan and Rai, 2000). The frequency decreases with increasing gestational age. The incidence of spontaneous abortion (miscarriage) in clinically recognized pregnancies up to 20 gestational weeks is 8 to 20 percent. However, the incidence among

women who have previously had a child is much lower (5 percent) (Wang et al., 2003). The overall risk of spontaneous abortion after 15 weeks is low (about 0.6 percent) for chromosomally and structurally normal fetuses, but varies according to maternal age and ethnicity (Wyatt et al., 2005). Several studies have concluded that women aged  $\geq 35$  years have a higher frequency of various adverse reproductive events: infertility, spontaneous abortion, pregnancy complications (such as Caesarean section, pre-eclampsia), congenital abnormalities, maternal mortality and perinatal mortality, than do younger women (Andersen et al., 2000). One of the most frequent adverse reproductive events is spontaneous abortion, with up to 10% of recognized conceptions lost during the pregnancy (Garcia-Enguidanos et al., 2002a). Most studies concerning the risk factors for spontaneous abortion have concluded that the predominant negative effects are those of advanced maternal age (with a clear increase in risk after 35 years) and previous spontaneous abortion (Osborn et al., 2000). Most studies report that around one in five clinical pregnancies will end in miscarriage (fetal death before 24 weeks) (Garcia-Enguidanos et al., 2002b). One of the most frequent adverse reproductive events is spontaneous abortion, with up to 10% of recognized conceptions lost during the pregnancy. Most studies concerning the risk factors for spontaneous abortion have concluded that the predominant negative effects are those of advanced maternal age (with a clear increase in risk after 35 years) and previous spontaneous abortion (Wier et al., 2002). Well-established risk factors for miscarriage include increased maternal age (Zinaman et al., 1996) history of miscarriage and infertility (Axmon and Hagmar, 2005) although the interaction between age, parity, infertility and previous pregnancy loss is complex and still not entirely understood. Several behavioural and social risk factors have been reported as increasing the risk of miscarriage, but most remain controversial or unconfirmed. Alcohol consumption, smoking and caffeine intake are the main examples, and controversy remains because few studies have examined these associations in the context of nausea, known to reduce the risk of miscarriage (Wisborg et al., 2003). There are also increasing interest in the role that stress and emotional wellbeing play in pregnancy. Recent emotional trauma and major life events during pregnancy, as well as stressful employment, have been linked to increased risk of miscarriage, but these findings require confirmation, particularly with respect to potential confounding. Evidence to link the classic occupational exposures of lifting, standing, noise and cold to miscarriage is not strong (Arck, 2001). Cigarette smoking has been considered a risk factor for spontaneous abortion (Dempsey and Benowitz, 2001). Studies are required that use data on smoking habits collected before knowledge about outcome of pregnancy, in which early and late abortions are differentiated, and in which adjustment is made for alcohol intake and other lifestyle and socioeconomic factors that might influence the result (Kesmodel et al., 2002). Diagnosis of a miscarriage may involve checking to see if the cervix is open or closed, testing blood levels of hCG and an ultrasound (Hurt et al., 2012).

## Results

A total of 54 patients were examined in the study. Total number of patients was 54. Among them, the minimum age was 16 and the maximum age was 40. The mean of the age came out to be  $\pm 27.03$  and standard deviation 5.50116. In table 1, Out of 54 patients, 38 patients had vaginal bleeding and 16 patients came out without vaginal bleeding. In table 2, sonographic findings of the patients are illustrated. A detail description is given below.

Table 1: Graphical presentation of vaginal bleeding

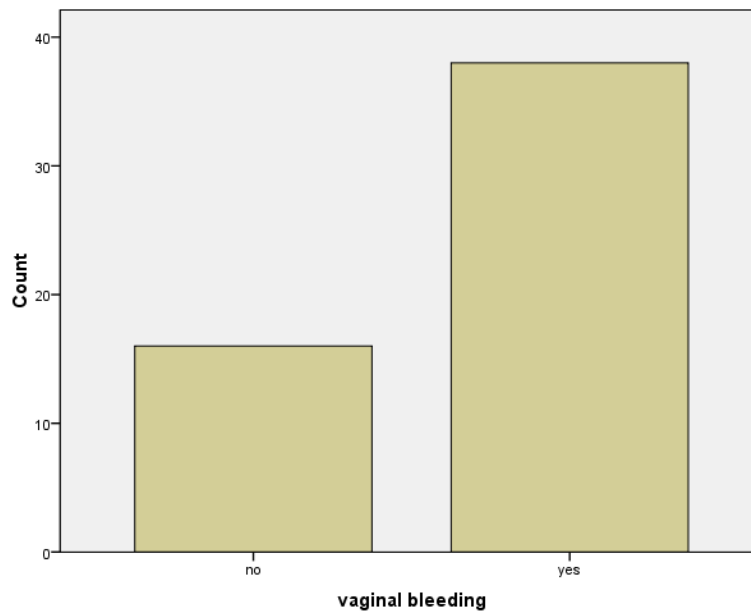


Table 2: Sonographic findings in patients

Sonographic findings	Frequency	Percent
Blighted ovum	11	20.4
CRL with negative FCA	1	1.9
Haematoma	5	9.3
Hydrops fetal	3	5.6
Irregular low lying placenta	1	1.9
Missed abortion	19	35.2
Open internal os	6	11.1
Previa type 3	1	1.9
Previa type I	1	1.9
Recurrent abortion	2	3.7
Scalping of bones	1	1.9
Scanty liquor	3	5.6
Total	54	100

## Discussion

In this study, 54 patients were observed and their data was recoded according to data collection process. The objective of this study was to determine various risk factors of spontaneous abortion. A total of 54 patients were examined in the study. According to the table 1, total number of patients was 54. Among them, the minimum age was 16 and the maximum age was 40. The mean of the age came out to be 27.03. According to table 2, Out of 54 patients, 38 patients had vaginal bleeding and 16 patients came out without vaginal bleeding. In table 3, sonographic findings of the patients were illustrated. As the data was collected of 54 patients, among these, 11 patients (20.4%) had blighted ovum, 1 patient (1.9%) had CRL with negative FCA, 5 patients (9.3%) had haematoma, 3 patients (5.6%) had fetal hydrops, 1 patient (1.9%) had irregular low lying placenta, 19 patients (35.2%) had missed abortion. 6 patients (11.1%) had open internal os, 1 patient (1.9%) had previa type 3, 1 (1.9%) had previa type 1. 2 patients (3.7%) had recurrent abortion. 1 patient (1.9%) had scalping of bones and 3(5.6%) had scanty liquor. According to the table 4, 9(16.7%) patients had 1 gravida, 9(16.7%) had 2 gravida, 22(40.7%) patients had 3 gravida, 4(7.4%) patients had 4 gravida, 9(16.7%) patients had 5 gravida, 1(1.9%) patients had 6 gravida. According to table 5, 14(25.9%) patients had no abortion. 29(53.7%) patients had 1 abortion. 8(14.8%) patients had 2 abortions, 3(5.6%) had 3 abortions. According to table 6, In 54 patients, minimum gestational age was 14 and maximum gestational age in the patients was 168. According to table 7, In 54 patients the minimum pregnancy loss was 21 and the maximum pregnancy loss was 168.

As comparing to a study done in 2017, 30%–50% of conceptions end in spontaneous abortion. Most losses occur at the time of implantation. 15%–20% of clinical pregnancies end in spontaneous abortions. Recurrent pregnancy loss is a frustrating clinical problem both for clinicians and patients. Recurrent pregnancy loss affects 0.5%–3% of women in the reproductive age group, and between 50%–60% of recurrent pregnancy losses are idiopathic. Oxidative stress-induced damage has been hypothesized to play a role in spontaneous abortion, idiopathic recurrent pregnancy loss, hydatidiform mole, defective embryogenesis, and drug-induced teratogenicity. Some studies implicate systemic and placental oxidative stress in the pathophysiology of abortion and recurrent pregnancy loss (Gupta et al., 2007). A preliminary case-control study was conducted on Saudi women to detect possible risk factors for spontaneous abortion (SA). Two hundred and twenty six consecutive women hospitalised for SA and 226 women admitted for normal delivery and used as controls, were studied. Women with SA were significantly older at menarche (Relative Risk (RR) = 3.2), more frequently married to blood-related husbands (RR = 2.1) and husbands older than 50 years (RR = 2.4). Number of previous abortions related linearly to the risk of aborting spontaneously in the next pregnancy. Compared to primigravidas, the RR was 3.2 if the outcome of the most recent pregnancy was SA, and 0.8 if it was a livebirth. A family history of SA was more common among cases (RR = 4.6) (Al-Ansary and Babay, 1994). In another study conducted in 2017 14,595 females were included in the study. The prevalence of uterine fibroids was 15.1% among all participants. Higher number of induced abortions was associated with an increased risk of uterine fibroids (1 induced abortion: odds ratios [ORs] = 1.32, 95% confidence interval [CI] 1.18–1.48; 2 induced abortions: OR = 1.45, 95% CI 1.28–1.64; and  $\geq 3$  induced abortions: OR = 1.62, 95% CI 1.39–1.90). Compared with women without induced abortion, ORs for women with 1, 2, and  $\geq 3$  were 1.17 (95% CI 1.03–1.32), 1.21 (95% CI 1.06–1.39), and 1.36 (95% CI 1.15–1.61), respectively, after adjustment for potential confounders. No association was observed between the number of spontaneous abortions and the risk of uterine fibroids (Song et al., 2017).

## Conclusion

There are multiple sonographic concerning signs but missed abortion and blighted ovum were the most common amongst them.

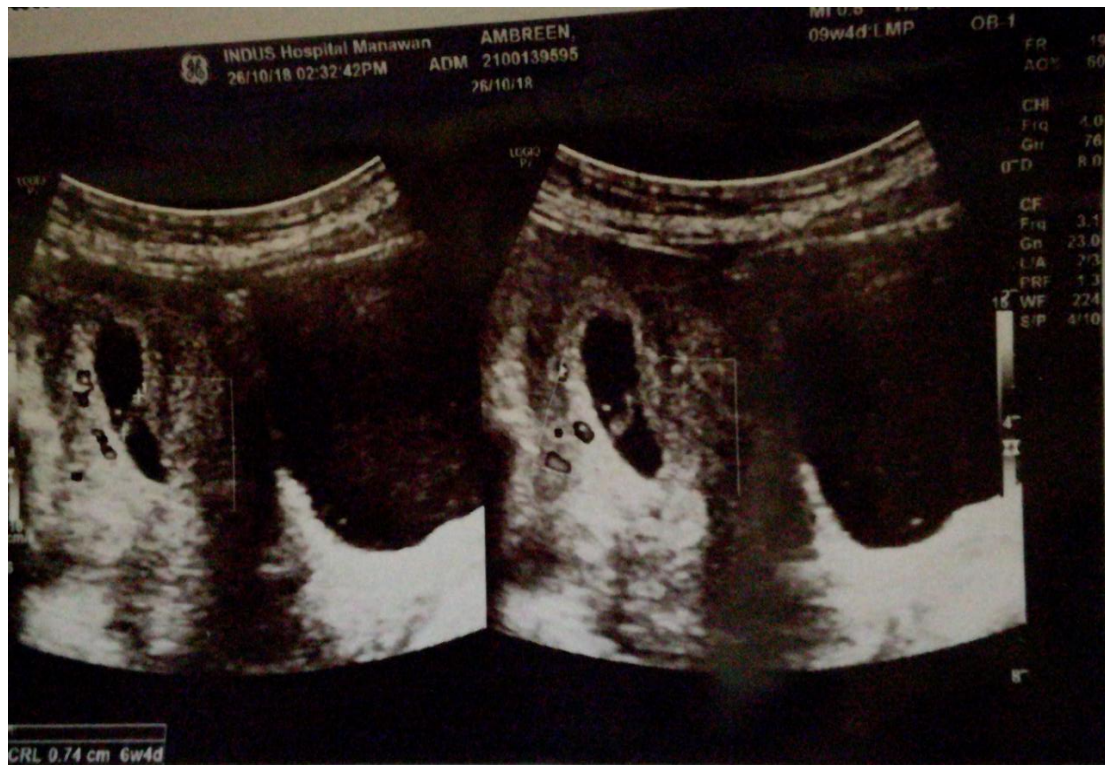


Figure 1: Patient with missed abortion at 6 weeks and 5 days



Figure 2: Scalping bones of fetus and absent cardiac activity

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