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THE STUDY OF ABNORMAL ULTRASOUND FINDINGS IN ABORTION CASES REFERRING TO THE AMIR-AL-MOMENIN MATERNITY HOSPITAL, ZABOL, FEBRUARY AND MARCH 2017

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Abstract:

Abortion includes removing pregnancy products before the first half of pregnancy (week 20 of pregnancy). Having the prevalence of %10, it is known as the most common pregnancy complication. The present research aims at studying the abnormal ultrasound findings in abortion cases referring Amir-al-Momenin Maternity Hospital of Zabol in February and March of 2017. This study is a descriptive-retrospective one conducted on 80 patients; the abortion was confirmed in the patients by applying ultrasound, and gestational sac was studied for at most 12 weeks through using Crown-rump length and 10 mm fetus. After acquiring the medical history, vaginal ultrasound was conducted by a female sonographer. The data collected were analyzed by using SPSS 18. The patients' mean age was 25±4.12; the highest prevalence was observed for ages 20-25, and the lowest prevalence was for ages 38-43. Based on LMP or ultrasound, the gestational age was determined to be less than 12 weeks in 69.8 percent of the abortion cases, and in 30.2 percent of the cases, it was 12-20 weeks. The findings indicated that in 37.3 percent of the patients, their first pregnancy led to abortion; 25.5 percent of the patients experienced this in their second pregnancy, 19.3 percent in their third pregnancy, and 18 percent in their fourth pregnancy. The findings also indicated that 50.8 percent of the patients had no history of abortion The findings of the present study indicate ever-increasing importance of early diagnosis of pregnancy in the first pregnancy weeks i.e. less than 12 weeks in patients with no history of disease. It is recommended that similar studies with larger statistical population be conducted in other areas, so that this procedure will be studied in more detail.

Key Words: *Abnormal, Ultrasound Findings, Zabol, Iran.*

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INTRODUCTION:

Losing pregnancy before 20th week of pregnancy (in the first three months) is referred to as abortion]. Abortion at the beginning of pregnancy is a prevalent complication, and it is divided into several kinds including Threatened Abortion, Inevitable or Incomplete Abortion, Complete Abortion, Missed Abortion, and Septic Abortion [2]. First failure of pregnancy causes complication for 15-20 percent of pregnancies for reasons such as Blighted-Ovum, forgotten abortion, and early fetal death. Although 80 percent of these abortion take place in the first 12 weeks, the exact is much higher; most of the abortions take place and still the mother does not notice her pregnancy [3]. The only significant symptom indicating the fetal life is the cardiac activity. However, lack of observing cardiac activity is not necessarily abnormal. Observing heartbeat in more than 90 percent of the pregnancies is associated with the continuation of pregnancy [4]. Spontaneous Abortion is the termination of pregnancy before the 20th week (139 days). Early Abortion takes place before the 12th week, while late abortion happens between 12th weeks to 20th week of pregnancy. The prevalence of spontaneous abortion is %40-50 [5]. The risk of spontaneous abortion is closely related to the number of deliveries as well as parental age. Observing distinct and separate gestational sac with fetal central echoes is a strong, yet not definite, reason for the death of gestational products. In missed abortion, one can observe a heartless fetus or the movements of gestational sac organs [6]. The fetus is likely to be smaller than expected for the gestational sac size or it might appear unformed or formless that is dependent on the time elapsed from the fetal death. In incomplete abortion, only some part of the gestational product remains inside the uterus that is seen as Mixed Echo [7]. In inevitable abortion, gestational sac and the fetus are separated from the implantation position and are place in lower uterine segment of vaginal canal. In 65 percent of abnormal pregnancies, the proportion difference between βHCG serum level and the gestational sac size was observed; βHCG level turned out to be lower. Methods such as hormonal measurement of HCG, Estrogen, Progesterone, HPL, and AFP are applied to evaluate the fetal survival. However, the most accurate method of diagnosing the life or death of the fetus is ultrasound [8]. Ultrasound is a less expensive and yet more accessible method than other prevalent methods. The gestational symptoms leading to abortion indicate all forms and these symptoms are studied in ultrasound studies [9]. Ultrasound is of great importance in determining the pregnancy inside and outside the uterus. It is important in determining whether the therapeutic result of abortion is completer or incomplete [10]. Through using ultrasound, one have an early conclusion about the patient, and it helps early diagnosis. The symptoms of pregnancies resulting in abortion are of different forms in ultrasound. All the forms and the likelihood of appearing the symptoms as uterine liquid, pelvic fluid, heterogeneous areas in the cavity of the uterus, deformed sac, no embryo sac, and living embryo sac [11].

MATERIALS AND METHODS:

The present study is a descriptive-retrospective one conducted on 80 patients referring to the Obstetrics and Gynecology ward Amir-al-Momenin Hospital of Zabol in February and March of 2017. In the present study, the patients whose abortions were confirmed through using ultrasound and had gestational sac of at most 12 weeks through using Crown-rump length (CRL) and 10 mm fetus entered the present study. Patients with fevers higher than 38c°, leukocytosis, thrombocytopenia, neutrophilia, uncontrollable bleeding, unstable hemodynamics, Anemia, mole, and septic abortion were e excluded from the present study. After taking the medical history, a female sonographer conducted the vaginal ultrasound on the qualified samples. The data collected were analyzed through using SPSS 18 and Chi-squared test (X^2 test) [12-14]. Moreover, $P\leq 0.05$was determined as the significance level.

FINDINGS:

In the present study, 80 patients whose mean age was 25±4.12 were studied. The highest prevalence was observed for ages 20-25, and the lowest prevalence was for ages 38-43. Based on LMP or ultrasound, the gestational age was determined to be less than 12 weeks in 69.8 percent of the abortion cases, and in 30.2 percent of the cases, it was 12-20 weeks. The findings indicated that in 37.3 percent of the patients their first pregnancy led to abortion; 25.5 percent of the patients experienced this in their second pregnancy, 19.3 percent in their third pregnancy, and 18 percent in their fourth pregnancy. The findings also indicated that 50.8 percent of the patients had no history of abortion. According to the findings, 25.27 percent of the patients had a history of one abortion, 12.7 percent had a history of two abortions, and 10.8 percent of the patients had a history of three abortions or more. With respect to the clinical symptoms, spotting was the most common symptom. The prevalence of severe bleeding, pain, and tissue disposal were 18.75, 65, and 16.25 respectively. The prevalence of different ultrasounds result in different kinds of abortions including forgotten abortion 56.25 percent, incomplete abortion 27.5 percent, mole 7.5 percent, ectopic pregnancy 6.25 percent, and septic abortion 2.5 percent. Ultrasound symptoms in the patients include deformed gestational sac, heterogeneous

areas in the cavity of the uterus, pelvic free fluid, and no embryo sac.

DISCUSSION:

Abortion includes removing gestational product before the first half of pregnancy. Having the prevalence of %10, it is known as the most common pregnancy complication [15]. Abortion can be caused by fetal disorders such as genetic causes as well as congenital causes like uterine abnormalities, hormonal causes, genetic problems, autoimmune causes, thrombophilia, or idiopathic causes [16]. Moreover, the effect of infections such as Chlamydia trachomatis, Neisseria gonorrhoeae, Escherichia coli, ureaplasma urealyticum in creating abnormalities and disorders in the reproductive system and infertility [17]. Performing routine ultrasound in pregnancy is a general part of pregnancy care all over the world [18]. The researchers have asserted that 50 years have passed since Ian Donald used ultrasound in gynecology and midwifery for the first time, and it has been used as a technology used in daily measures taken for gynecology and midwifery cares in the last 25 years [19]. Nowadays, using ultrasound is recommended as a screening tool or as diagnostic test with the least complications [20]. Given the abovementioned issues, the present research aimed at studying the abnormal ultrasound findings in abortion cases referring Amir-al-Momenin Maternity Hospital of Zabol in February and March of 2017. In the present study, 80 patients were studied. The findings indicated that the highest prevalence was observed for ages 20-25, and the lowest prevalence was for ages 38-43. The gestational age was determined to be less than 12 weeks in 69.8 percent of the abortion cases, and in 30.2 percent of the cases, it was 12-20 weeks. The findings of the present study are consistent with those of the study by Zanei-Ghahramani et al, 2002 conducted to study the ultrasound findings of abortion cases resulting in curettage in Imam Hussein Hospital in Tehran from 1999 to 2002 [21]. The findings indicated that in 37.3 percent of the patients, their first pregnancy led to abortion; 25.5 percent of the patients experienced this in their second pregnancy, 19.3 percent in their third pregnancy, and 18 percent in their fourth pregnancy. The findings also indicated that 50.8 percent of the patients had no history of abortion. In the study conducted by Yazdani et al, 2008, one case of abdominal pregnancy with the primary diagnosis of forgotten abortion was reported in Babol. A twenty-nine-year-old woman with the first pregnancy was studied. She suffered from vaginal bleeding and abdominal pain. In the aforementioned study, it was claimed that abdominal pregnancy diagnosis might be problematic based on the findings of ultrasound examination. Definite diagnosis needs Laparoscopy or Laparotomy [22]. This is somehow consistent with the findings of the present study. In the study by Shekarchi et al (2008) conducted to study the ultrasound findings of abortion cases resulting in curettage in Imam Hussein Hospital in Tehran from 2002 to 2005, the patients mean age was 28.1 (±5.1); the highest rate of prevalence was observed for ages 20-30. In 69 percent of abortion cases, the gestational was less than 12 weeks and in 31 percent of the cases it was between week 12 to week 20 [23]. Despite the difference existing in the statistical population, the findings of the aforementioned study are consistent with those of the present one. Sadr et al, 2005 conducted a study to determine the gestational age in the first three months of pregnancy based on size of ultrasound gestational sac in patients referring to the hospitals of Shahid Beheshti University of Medical Sciences. The finding of their study indicated a positive correlation coefficient between all three diameters of gestational sac and gestational age. This suggests that they were consistent with each other and confirms the ever increasing importance of performing ultrasound in the first three month of pregnancy [24]. This is consistent with the findings of the present study.

CONCLUSION:

The findings of the present study indicate ever-increasing importance of early diagnosis of pregnancy in the first pregnancy weeks i.e. less than 12 weeks in patients with no history of disease. The findings also indicated the significant importance of abnormal ultrasound findings in diagnosing cases resulting in abortion in pregnant women. It is recommended that similar studies with larger statistical population be conducted in other areas, so that this procedure will be studied in more detail.

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