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AN OBSTETRIC OUTCOME AFTER PREVIOUS SPONTANEOUS ABORTIONS

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Abstract

BACKGROUND: The most frequent pregnancy problem is spontaneous pregnancy loss, which happens frequently. An estimated 50% of human pregnancies end before the first missed menstrual period, and about 70% of conceptions fail to reach viability. Any method used to end a pregnancy before the fetus is developed enough to survive is known as an abortion. RCOG states that it is twenty weeks. Nonetheless, the World Health Organization states that a fetal weight of less than 500 grams is included in the definition of abortion, and that the cutoff point for using the word is at 22 weeks gestation (154 days). An adverse modification of the current obstetric outcome due to the character of the preceding obstetric disaster is referred to as a terrible obstetric history. Since many induced abortions are not recorded, it is challenging to determine the incidence of abortion with accuracy.

AIM: In women who have previously had spontaneous abortions, the study aims to quantify the probability of several unfavorable outcomes, including low birth weight, intrauterine growth restriction, stillbirth, intrauterine death, early rupture of membranes, recurrence of abortion, and any other adverse result.

MATERIAL AND METHOD: 100 patients were admitted to the Medical College and Hospital's Department of Obstetrics and Gynecology in India between September 2018 and February 2020 for the purposes of this study. Random enrollment was used to select patients who had previously experienced a spontaneous abortion before becoming pregnant, regardless of their gravidity, first visit, or book. A thorough medical history was obtained, and information about prior abortions was the main focus of the assessment. These patients were seen one after the other in the same session. Every participant provided written informed permission, and the study was approved by the institutional review board. During the current pregnancy, the patients were monitored for problems such as PROM, placenta previa, preeclampsia, placental abruption, abortion, IUFD, breech, threatening abortion, and stillbirth.

RESULTS: Out of 100 patients, 60 were booked and 40 were reported for the first time in an emergency. Out of the total, 60 patients belong to the age group 21-29 years, 27 in the age group < 20, 13 in the age group 30- 35, and one patient had the age of >35 years. The mode of delivery in 42% of patients was a cesarean section, followed by normal vaginal delivery in 37% and assisted vaginal delivery in 3.5% of areas.

CONCLUSION: Negative pregnancy outcomes are linked to a history of spontaneous abortion; however, by providing appropriate prenatal care, the risks and fetal loss can be minimized. In uncomplicated pregnancies, serial sweeping of the membranes lowers the incidence of post-term pregnancy, its dangers, and associated expenses by preventing pregnancy beyond 41 weeks in a safe and effective manner. In cases where there have been prior abortions, the proportion of surgical deliveries rises. The history of one abortion in a prior pregnancy should be looked into and treated because it has a clear effect on the success of subsequent pregnancies.

KEYWORDS: Intrauterine Growth Retardation, Inter Pregnancy Interval, Premature Rupture of Membranes, Intra uterine death and Lower Segment Caesarian Section

Introduction

Fifteen percent of pregnancies end in spontaneous pregnancy loss or miscarriage (abortion before 24 weeks of gestation).[1] In India, spontaneous abortion occurs more frequently in cities than in rural areas.[2] Hazard of recurrent miscarriages (three consecutive spontaneous miscarriages). Despite extensive examinations, the exact cause of a previous spontaneous abortion cannot be determined in approximately half of the instances. Thrombophilia, hormonal imbalances, genetic abnormalities, and structural defects are the main reasons of repeated abortions.[3]

When a pregnancy fails to progress and the embryo or fetus dies and is expelled, it is referred to as a miscarriage (abortion). According to the widely recognized definition, a fetus or embryo should weigh 500 grams or less, which is equivalent to a gestational age of up to 20 weeks (WHO).[4] Fifteen percent of pregnancies end in spontaneous pregnancy loss or miscarriage.[5] It has been noted that spontaneous abortion occurs more frequently in urban than rural areas of India.[6] The American Pregnancy Association (APA) estimates that miscarriage occurs in 10–25% of clinically diagnosed pregnancies. Every miscarriage has a different etiology, and frequently there is no known reason.[7] Fetal pathology, congenital abnormalities, low birth weight, low APGAR score, Down's syndrome in a young mother, IUGR, and premature labor in the subsequent pregnancy have all been linked to abortion.[8]

Unplanned pregnancy could be a sign of a significant chance of unfavorable outcomes in future pregnancies. The pathogenesis of spontaneous abortion is similar to those of unfavorable outcomes such as small for gestational age, low birth weight, growth retardation, and premature labor. Therefore, it is important to treat pregnancies with a history of spontaneous abortions as high-risk pregnancies and to take extra precautions during the antenatal period in case similar results occur.[9]

Pregnancy-related early events and consequences rank among the most prevalent general medical issues that affect pregnant women. The majority of these, which include vanishing twins, intrauterine hematomas (IUH), vaginal bleeding, miscarriages (recurrent), and hyperemesis gravidarum (HG), happen before 12 weeks of gestation. In order to comfort and encourage the couple at a trying period, it is crucial for the doctor to assess the symptoms and comprehend the short- and long-term effects of early pregnancy difficulties.[10,11] Specifically, it is critical to assess the risk of following unfavorable obstetric outcomes as secondary complications and to be diligent in screening and acting to prevent or lessen the expected negative effects. A woman's risk of threatened abortion, premature birth, and fetal loss increases if she has previously had an abortion. When choosing between antenatal close monitoring and pregnancy management for patients who have previously experienced spontaneous abortions, these criteria must be taken into account.[12] Research has shown that for individuals who had prior abortions, counseling and supportive care led to a favorable outcome of 70–80% live births. Anatomical diseases, hormonal abnormalities, genetic abnormalities, and thrombophilias are the primary causes of recurrent abortions. Research has shown that when individuals with prior spontaneous abortions receive counseling and supportive treatment, 70–80% of them experience a good outcome: live births.[13]

The greater the number of abortions performed during prior pregnancies, the higher the chance of experiencing another miscarriage. The cause of spontaneous abortion is sometimes muddled and unclear. The causes of abortion can be fetal factors like Aneuploidy[14], Maternal factors like infections and medical disorders like Diabetes, Thyroid dysfunction, Cardiac diseases, Radiation & Chemotherapy for cancer, and Nutritional factors like extreme obesity and severe Hyperemesis Gravidarum. Drug abuse and social habits like alcohol & smoking.[15]

MATERIAL AND METHODS

100 patients were admitted to the Medical College and Hospital's Department of Obstetrics and Gynecology in India between September

2018 and February 2020 for the purposes of this study. Random enrollment was used to select patients who had previously experienced a spontaneous abortion before becoming pregnant, regardless of their gravidity, first visit, or book. A thorough medical history was obtained, and information about prior abortions was the main focus of the assessment. These patients were seen one after the other in the same session. Every participant provided written informed permission, and the study was approved by the institutional review board. During the current pregnancy, the patients were monitored for problems such as PROM, placenta previa, preeclampsia, placental abruption, abortion, IUFD, breech, threatening abortion, and stillbirth.

Inclusion criteria

1. In this study patients with a history of spontaneous abortion, irrespective of cause and period of gestation were included.
2. Age group-18 to 35 years.
3. Patients with 1 and/or more than 1 spontaneous abortion.
4. Patients with previous live birth, followed by spontaneous abortion.

Exclusion criteria

1. Patients with induced abortion
2. History of spontaneous abortion with twin gestation
3. History of PIH, Chronic hypertension, GDM, Juvenile DM, heart disease, anemia,
4. History of carcinoma
5. History of HIV/HBsAg/VDRL/Twins.

Patients with a husband who tested positive for hepatitis B were queried explicitly about any history of hemolysis in the womb, neonatal jaundice, anti-D treatment, or blood transfusions during a prior pregnancy. Cervical incompetency was looked into in patients who had previously had mid-trimester abortions.

Regardless of gestation age, these babies are defined by the WHO as ones whose birth weight is less than 2500 grams. Babies whose birth weight falls below the 10th percentile of the gestational age average are considered to have it. It is approximately 15% in post-term newborns and 5% in term babies. These infants are susceptible to polycythemia, necrotizing enterocolitis, asphyxia, hypoglycemia, meconium aspiration syndrome, and hypothermia. Infants with very low birth weights weigh 1500 grams, while those with extremely low birth weights weigh 1000 grams or less. It is divided into two categories: small for gestational age newborns and premature. The range of occurrence is 5% to 40%. Asphyxia, hypothermia, pulmonary syndrome, heart failure, infection, jaundice, dehydration, anemia, and retinopathy of prematurity are among the risks that these babies face.

Statistical analysis

The Statistical software namely SPSS 11.0, Stata 8.0, Systat 11.0, Medcalc 9.0.1, and Effect Size calculator were used for the analysis of the data, and Microsoft word and Excel have been used to generate graphs, tables, etc.

RESULT: -

Table 1: Outcome of present pregnancy in patients with previous spontaneous abortion.

Sr. No.	Pregnancy Outcome	Booked (N=60)	Emergency (N=40)	Total (N=100)
1.	Abortion	8	5	13
2.	Missed Abortion	0	2	2
3.	Preterm Delivery	10	2	12
4.	Term live birth	40	30	70
5.	Stillbirth	0	3	3

Out of 100 patients, 60 (60 %) were booked and 40 (40 %) were reported for the first time in an emergency. Out of the total, 60 (60 %) patients belong to the age group 21-29 years, 27 (27 %) in the age group < 20, 13 (13%) in the age group 30- 35, and one patient had the age of >35 years.

Table 5: Shows the Maternal complications

Maternal complications	No.	%
PROM	13	13
Placenta Previa	4	4
Pre-eclampsia	9	9
Eclampsia	1	1
Plc abruption	5	5
Abortion	17	17
IUFD	3	3
Breech	6	6
Pt delivery	20	20
Threatened abortion	22	22

22 % of the patients had threatened abortion and 17 % had a complete abortion. Further, it was found that patients with pre-term delivery and PROM were 20 % and 13.

Table 6: Mode of delivery

Mode of delivery	Cesarean section	Normal vaginal delivery	Assisted vaginal delivery
Total	70	25	5
Percentage	70%	25%	5%

The mode of delivery in 70% of patients was a cesarean section, followed by normal vaginal delivery in 25% and assisted vaginal delivery in 5% of areas.

DISCUSSION

The goal of the current study was to examine the course of pregnancy in one hundred patients who had previously had spontaneous abortions. Forty (40%) of the patients were first-time emergency room visitors for births; these cases were used to compare the results to scheduled cases. The age range of 21–29 years old was the largest patient population since it was the most reproductive time. Educational status of the patients had no formal education or only up to the primary level which is similar to the findings of **Hemminki et al 1999**[16] who showed that spontaneous abortion is more common in low educational status.

Thapa et al. reported that abortions were more common in the urban population, with induced abortions accounting for the majority of these cases.[17] It is commonly known that the likelihood of an abortion rises as the number of prior miscarriages increases. After the first, second, third, and fourth abortions, the incidence of miscarriage was determined to be 9.4%, 14.8%, 20%, and 100%, respectively. According to Clifford et al. (1997), the percentage of abortions following a third and fourth abortion was 29% and 27%, respectively.[13,18]

Sheiner et al 2005[3] in their study of 7503 patients of recurrent abortion demonstrated a higher risk of complications like abruption placenta, hypertensive disorders, and cesarean section. Reginald et al. found increased incidence of small for gestational age newborns, premature births, and perinatal mortality in a different study involving women who had experienced three or more miscarriages.

Kashanian M et al 2014[19] found that there was a risk of repeat abortion (16.5%), fetal death (1.5%), and the rate of cesarean section (28.1%) was increased in previous miscarriage cases. As indicated by the data above, there was an increase in the incidence of high-risk variables in the current study. **Taylor et al 1993**[20] reported an increased incidence of Placenta previa in patients with a previous abortion, supporting the present study

Even after adjusting for variables, research indicated a strong correlation between repeated abortions and cesarean sections (CS).[3] In our study, 23.3% of patients had CS for a variety of reasons. To prevent fetal discomfort, mother tiredness, and a protracted second stage of labor,

the incidence of surgical and instrumental delivery was high. Prenatal exams and supportive treatment have been shown to enhance pregnancy outcomes.[13]

Preterm birth, fetal loss, and threatening abortion are all increased by prior abortion. However, some research has indicated differently.[21] **Sheiner E et al.2005**[3] in their study demonstrated a higher risk of complications like abruption placenta, hypertensive disorders, and cesarean section. One study analyzed the pregnancy outcomes after spontaneous abortions and found that there is a higher chance of congenital abnormalities, low birth weight at one minute, low APGAR at one minute, threatened abortion, and preterm delivery following a spontaneous miscarriage.[22] **Inee de hass**, **MD et al. 1991** [23] did a case-control study of spontaneous preterm birth. Pregnancy weight less than 61.5 kg, smoking during pregnancy, previous preterm delivery, and H/O prior to forced abortion were the risk factors examined in this study. The risk of spontaneous preterm births was found to be significantly increased in patients with two or more pregnancies, spontaneous abortions, induced abortions, and prior preterm deliveries. Additionally, smoking tobacco products, especially for women who smoked more than six to ten cigarettes a day, was also linked to an increased risk of spontaneous preterm births.

Olga Basso et al 1998[24] did a study to evaluate the risk of preterm delivery, low birth weight, and growth retardation following spontaneous abortion. Preterm delivery (95%) was more common in the abortion cohort, as were low birth weights (7.5%), growth retardation (10.2%), and low birth weights (3%). They came to the conclusion that spontaneous abortion is linked to low birth weight, IUGR, and premature delivery in subsequent pregnancies. **DaVanzo, L Hale, b A Razzaque, et al 2007**[25] did a study to estimate the effects on pregnancy outcomes of the duration to the preceding interpregnancy interval (IPI) and type of pregnancy outcome that began the interval preceding pregnancy outcome. They came to the conclusion that women with shorter or longer IPIs are more likely to experience fetal loss than those whose pregnancies occur between 15 and 75 months following a previous pregnancy outcome.

CONCLUSION:

Negative pregnancy outcomes are linked to a history of spontaneous abortion; however, by providing appropriate prenatal care, the risks and fetal loss can be minimized. In uncomplicated pregnancies, serial sweeping of the membranes lowers the incidence of post-term pregnancy, its dangers, and associated expenses by preventing pregnancy beyond 41 weeks in a safe and effective manner. In cases where there have been prior abortions, the proportion of surgical deliveries rises. The history of one abortion in a prior pregnancy should be looked into and treated because it has a clear effect on the success of subsequent pregnancies.

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