Relation Between Bleeding in First Trimester of Pregnancy and Preterm Labour

Thesis

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Abstract

Background: The most common cause of fetal mortality in developed countries is preterm labor. More importantly, permanent disabilities are seen in infants surviving death. Although care before and after delivery has been effective in improving infant survival. so this study is done to correlate the relation between threatened abortion and preterm labor to be able to use preventive measures to decrease preterm labor

Methods: The current study was a cohort study. Detailed history and patient examination and investigations were administered to 240 singilton pregnant females divided into two groups (pregnant with vaginal bleeding n=120 and pregnant without vaginal bleeding n=120).

Results: the patients with vaginal bleeding had a significant higher prevalence of preterm labour than patients without vaginal bleeding, .were incidence rate among exposed20/100=20% and among unexposed 8/100=8% . so relative risk is 2.5 which means that patients with vaginal bleeding from 8 to 13 weeks are more subjected 2 and half times more to pretem labour than patients without vaginal bleeding.

Conclusion: this study documents that there is relation between threatened abortion and preterm labour as the patients with vaginal bleeding in first trimester had higher risk to develop preterm labor in their pregnancy

Keywords: Pregnancy, preterm birth, vagina bleeding

INTRODUCTION

The normal human gestation period is 37 to 42 weeks of pregnancy. Preterm birth refers to birth before 37 weeks of pregnancy. Its prevalence has been calculated to be 15% at present and thus it continues to be a major health problem ***(Cunningham et al., 2010).***

This can be attributed to a wide range of causes including maternal, fetal, and placental. About one-third of preterm births occur due to complications in mother or fetus and health risks such as high blood pressure, bleeding or intrauterine growth restriction. Two-thirds of preterm births occur spontaneously ***(Firouzabadi et al., 2014).***

The most common cause of fetal mortality in developed countries is preterm birth. More importantly, permanent disabilities are seen in infants surviving death. Although care before and after delivery has been effective in improving infant survival ***(Cunningham et al., 2010),*** preterm birth still counts for 70% of infant mortality and 75% of infant disabilities. It is the major cause of disability for infants regardless of forms of congenital abnormalities ***(Firouzabadiet al., 2015).***

The problem of preterm birth is one of the important reasons for admission to the hospital during pregnancy ***(Eftekhar andRahmani, 2012).***

It also creates abundant economic problems for families ***(Pourmasumiet al., 2014),*** and in spite of all efforts for prevention, it continues to be on the rise ***(Cunningham et al., 2010).***

Successful pregnancy depends on the integration of complicated genetic, hormonal, immunological and cellular factors. All these factors should fully cooperated with each other during pregnancy so that fertilization, implantation, and development of the embryo eventually reach fulfillment ***(Ahmadi et al., 2016).***

Bleeding during pregnancy, is among the most stressful cases for both patients and physicians. Spotting or bleeding during pregnancy is prevalent especially in the first trimester, often with no reason at all ***(Ahmadi et al., 2016).***

But it can be due to the implantation of embryos, abortion, ectopic pregnancy, hydati form mole, changes in the cervix, infection, focal lesions such as polyps and fibroids, and bleeding tendency. Severe bleeding can endanger pregnancy and so this topic needs further consideration ***(Cunningham et al., 2010).***

In half of the cases, vaginal bleeding in the first trimester of pregnancy results in spontaneous abortion, while women who remain pregnant experience the risk of consequent complications during pregnancy ***(De Sutter et al., 2016).***

In general, bleeding during the first trimester is a predictor of adverse outcomes of pregnancy such as increasing the risk of fetal or neonatal death at least four times. Low birth weight, preterm delivery which increases by two folds ***(Elham et al., 2016).***

As mentioned before about half of the cases of first trimesteric vaginal bleeding is unknown therefore the possible mechanism of preterm labor following bleeding in early pregnancy is still unclear ***(Saydah et al., 2013).***

GOAL OF THE STUDY

To establish relation between threatened abortion and preterm labor to be able to perform preventive measures for preterm labor in these patients.

STUDY OBJECTIVE

It is to determine whether there is a relation between vaginal bleeding in the first trimester of pregnancy and preterm labor or not, in order to be able to perform more preventive measures for preterm labour.

Chapter (1)
BLEEDING IN FIRST TRIMESTER

Vaginal bleeding in the first trimester of pregnancy is associated with spontaneous abortion/miscarriage, ectopic implantation, hydatidiform mole, preterm delivery, and low birth weight. It has been reported that 50% of women presenting to an emergency room with vaginal bleeding will go on to have a normal pregnancy ***(Paspulati et al., 2014)***. Vaginal bleeding is a common event in the first trimester, reported to occur in 15% to 25% of all pregnancies ***(May et al., 2008)***. Bleeding can be a normal sign of implantation of the pregnancy, may herald the initiation of spontaneous abortion, or may be the sign of a pathologic condition, such as ectopic pregnancy or gestational trophoblastic disease (GTD). Vaginal bleeding after confirmation with a positive pregnancy test requires further assessment in order to identify normal or abnormal development of the pregnancy or a pathologic condition that requires intervention. The three main differential diagnoses associated with first-trimester vaginal bleeding are spontaneous abortion, ectopic pregnancy, and GTD ***(Condous, 2016)***.

Early Pregnancy Development: Implantation Bleeding:

The process of implantation begins approximately 6 days after fertilization. Vaginal bleeding can occur as a result of the burrowing of the blastocyst into the uterine endometrium.

During this preembryonic stage, blastocyst implantation causes a disruption of the endometrial extracellular environment. The resulting bleeding is generally a small amount but may be bright red in appearance. This ‘‘implantation’’ spotting or bleeding is sometimes believed to be the initiation of menses by the woman, and consequently she may not recognize her pregnancy until she begins to have other symptoms (e.g., breast tenderness, nausea, fatigue, etc.) or confirms her pregnancy with a home pregnancy test ***(Dogra et al., 2015)***.

Vaginal Bleeding In The First Trimester

In addition to creating anxiety for the woman, vaginal bleeding can be a confusing clinical picture. Unusual vaginal bleeding in a woman who is sexually active, especially if she is not using contraception, must be considered pregnancy-related until proven otherwise. Although spontaneous abortion, ectopic pregnancy, and GTD are the key differential diagnoses, others should not be overlooked (e.g., cervicitis, cervical lesions, cervical polyps, cervical/vaginal trauma secondary to sexual activity, vaginitis/vaginosis, and sexually transmitted infections, including pelvic inflammatory disease) ***(Barnhart et al., 2014)***. Uterine fibroids are also associated with vaginal bleeding during pregnancy. Benson et al., selected 143 pregnant women who had fibroids documented sonographically in the first trimester from a large, prospectively collected database ,Criteria for inclusion in the analysis were singleton pregnancies up to 13 weeks’ gestation with positive fetal heart

motion. Outcomes of the selected group with fibroids were compared with a control group of 715 women without fibroids whose pregnancy was detected by early ultrasound from the same cohort. The rate of spontaneous abortion was 14%in the fibroid group versus 7.6%(P< .05) in the control group ***(Benson et al., 2011)***. Other increased risks associated with a pregnancy complicated with fibroids include preeclampsia, placental abruption, premature rupture of membranes, intrauterine growth restriction, and preterm ***(Henshaw, 2016)***.

In a prospective, cohort study of 2678 women, Hossain et al., examined the relationship between vaginal bleeding in early pregnancy and preterm delivery. Twenty-six percent of women reported vaginal bleeding during the first or second trimester of their pregnancy. They found that vaginal bleeding in early pregnancy was associated with a 1.57-fold increased risk of preterm delivery. Vaginal bleeding had a stronger relationship with spontaneous preterm labor than with preterm premature rupture of membranes. The researchers also found that the most significant risk occurred when the vaginal bleeding persisted in the first and second trimesters ***(Hossain et al., 2009)***.

The amount of bleeding, along with other symptoms such as pain, identifies the urgency of the visit and contributes to the signs and symptoms that are considered part of a differential diagnosis. In a prospective study of 370 women with a positive pregnancy test and vaginal bleeding, the authors