

Effects of Placenta Location in Pregnancy Outcomes of Placenta Accreta Spectrum (PAS): A Retrospective Cohort Study

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Received April 2021; Revised and accepted September 2021

Abstract

Objective: Placenta Accreta Spectrum (PAS) affects approximately one in a thousand deliveries. Very few studies evaluated PAS risk factors based on their location. In this study, we have investigated the effects of placenta location on placental adhesion-related complications, its risk factors, and outcomes.

Materials and methods: We performed a retrospective cohort study of pathology-confirmed cases of PAS from patients with peripartum hysterectomy, at a large educational hospital in Qazvin, Iran, from 2009 to 2019. Placenta location was found by ultrasound reports and intraoperative evaluation. We measured demographic features, basic characteristics, maternal and neonatal outcomes based on placental location including anterior, posterior, and lateral in Placenta Accreta Spectrum. Chi-square, t-test, and one-way ANOVA were used to examine the relation of complications, risk factors, and outcomes in PAS.

Results: A review of 70 cases showed the distribution of placenta location as follows: 57% anterior, 27% posterior, and 16% lateral. The mean gestational age at delivery was 35 (33-39) weeks. In 78.6% (n=55) of the patients, an association with placenta previa and in 94/2% (n=66) of cases a history of cesarean section was found, however, it was not significantly correlated with placenta location (p=0.082). We found that surgery duration was significantly longer in patients with lateral PAS (155±38, vs 129.35±33.8 and 133.15±31.5 for anterior and posterior placenta respectively, p=0.09). Patients with lateral PAS also bled more than the remaining two groups (2836 ml for lateral PAS vs 2002 and 1847 for anterior and posterior placenta respectively, p=0.022). Moreover, women with a history of uterine surgery were more likely to have posterior PAS compared to those with anterior and lateral PAS (p=0.035).

Conclusion: Differences in complications, risk factors, and outcomes of PAS based on placenta location may lead to improved diagnosis and decreased morbidity in women.

Keywords: Hysterectomy; Maternal Mortality; Placenta Accreta; Postpartum Hemorrhage; Placenta Previa

Introduction

Placenta accreta spectrum (PAS) is a high-risk

pregnancy condition that occurs when the placenta deeply attaches to the uterine wall and includes three major types: accreta, increta, and percreta (1). The most well-known risk factor is placenta previa when there is a history of previous cesarean delivery (2) or other uterine surgeries, such as endometrial curettage

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