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OBSTETRIC OUTCOMES OF FERTILITY PATIENTS WITH PELVIC PAIN DISORDERS

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OBJECTIVE:

Previous research has shown vaginismus to be an independent risk factor for cesarean delivery (CD). CD is associated with increased maternal and neonatal morbidity compared with vaginal deliveries; despite this, the rate of CD continues to rise. The American College of Obstetricians and Gynecologists has proposed strategies to help reduce the rate of CD. Most of which focus on the peripartum and intrapartum periods. Therefore, an opportunity exists for reproductive endocrinology and infertility (REI) providers to identify patients at risk for CD based on a history of pelvic pain disorders (PPDs).

MATERIALS AND METHODS:

The study included all nulliparous patients undergoing assisted reproductive technology (ART) treatment at a single academic fertility center who had a live birth from 2012-2020. Cases included all patients diagnosed with PPDs. A 3:1 ratio propensity score matched population of patients without PPDs was included as a control group. Patients were matched by age, body mass index (BMI), and anti-Müllerian hormone (AMH). Baseline demographics were collected and included age, MI, marital status, duration of infertility, AMH, history of anxiety disorders, use of anxiolytics, and obstetrical outcomes. Exclusion criteria were pregnancy outside of treatment, fibroids, Müllerian anomalies, and prior uterine surgery. Comparative statistics were performed using chi-square and student's t-test where appropriate. A multivariate regression analysis was conducted to evaluate the association between PPDs and mode of delivery. A total sample size of 170 patients per group was calculated in order to detect a 15% difference in CD rates with an 80% power ($\alpha=0.05$).

RESULTS:

174 patients who reported a history of a PPD were compared to 575 controls. Demographic characteristics were comparable among groups. Significant differences were found in the



duration of infertility among groups with PPD patients reporting a longer duration of infertility (18.9 ± 20 vs 14.0 ± 14 vs. $p=0.003$). Patients in the PPD group had significantly higher diagnosis of anxiety disorders (115 ± 21.9 vs. 55 ± 31.6 , $p < 0.009$) and use of anxiolytics (17 ± 3.2 vs. 12 ± 6.9 , $p < 0.03$) as compared to controls. The prevalence of chronic hypertension was significantly higher in patients with PPDs (6 ± 3.4 vs 5 ± 1 $p < 0.02$). Patients with a history of PPD had a higher rate of CD compared with controls (59.8% vs. 49.2% $p=0.01$). Additionally, after adjusting for age, BMI, AMH, duration of infertility, and fertility diagnosis, there was a significant association between having a diagnosis of PPD and increased odds of having a CD (aOR= 1.5, CI 95%; 1.06-2.20).

CONCLUSIONS:

Patients with PPDs have significantly greater odds of CD, higher rates of anxiety disorders, and increased use of anxiolytics compared to patients without a history of pelvic pain.

IMPACT STATEMENT:

REIs could serve as a point of intervention and referral for patients with PPDs. Pelvic physical therapy, emotional support, and insertion training may be beneficial in improving patient experience and outcomes, and reducing the risk of CD.

REFERENCES:

N/A