**54. Pregnancy outcomes among women with endometriosis and fibroids: registry linkage study in Massachusetts**

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Abstract

Background: Endometriosis and uterine fibroids are common gynecologic conditions associated with greater risk of infertility. Prior research has suggested that these conditions are associated with adverse pregnancy outcomes, potentially due to increased utilization of fertility treatments.

Objective: Therefore, our objective was to investigate whether women with a history of endometriosis or fibroids had a greater risk of adverse pregnancy outcomes and whether this risk varied by infertility history and fertility treatment utilization.

Materials and methods: Deliveries (2013-2017) from Massachusetts vital records were linked to assisted reproductive technology (ART) data, hospital stays, and All- Payers Claims Database (APCD). We identified endometriosis and fibroids diagnoses via APCD before index delivery. Adjusted relative risks (aRR) for pregnancy complications were modeled using generalized estimating equations with a log link and Poisson distribution. The influence of subfertility/infertility and ART was also investigated.

Results: Among 91,825 deliveries, 1,560 women had endometriosis and 4,212 had fibroids. Approximately 30% of women with endometriosis and 26% of women with fibroids experienced subfertility or infertility without utilizing ART, with 34% of women with endometriosis and 21% of women with fibroids utilizing ART for index delivery. Women with a history of endometriosis or fibroids were at a greater risk of pregnancy induced hypertension/ preeclampsia/ eclampsia (RR Endometriosis:1.17; RR Fibroids:1.08), placental abnormalities (RR Endometriosis:1.65; RR Fibroids:1.38), and caesarean section (RR Endometriosis:1.22; RR Fibroids:1.17) compared to women with no history of those conditions. Neonates of women with a history of endometriosis or fibroids were also at a greater risk of preterm birth (RR Endometriosis:1.24; RR Fibroids:1.17). Associations between fibroids and low birthweight varied by fertility status/ART (p-heterogeneity=0.01) and were stronger among non-infertile women.

Conclusion: Endometriosis or fibroids increased the risk of adverse pregnancy outcomes possibly warranting differential screening or treatment.

Keywords: Endometriosis; adverse pregnancy outcomes; epidemiology; infertility.