

Endometriosis and Pregnancy-Associated Complications

Kulvinder Kochar Kaur^{1*}, Allahbadia GN² and Singh M³

¹Kulvinder Kaur Centre For Human Reproduction, India

²Rotunda-A Centre for Human Reproduction, India

³Consultant Neurologist, Swami Satyanand Hospital, India

***Corresponding author:** Dr Kulvinder Kochar Kaur, Scientific Director, Dr Kulvinder Kaur Centre for Human Reproduction 721, GTB. Nagar, Jalandhar-144001, Punjab, India, Tel: 91-181-9501358180/ 91-181-4613422; Email: kulvinder.dr@gmail.com

Commentary

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Endometriosis is a common disorder that is estimated to affect 10% of women. We have earlier reviewed aetiopathogenesis and medical management of endometriosis, besides the surgical management [1-3]. Recently Zullo, et al. did an extensive and thorough meta-analysis of the literature regarding pregnancy complications, which is one of the largest and most comprehensive studies till date [4]. They analyzed 24 studies comprising 1,924,114 women. Mostly the diagnosis was made histologically after surgery.

Increase in incidence of Endometriosis in pregnancy and Endometriosis associated complications of pregnancy has been on the rise. This is possibly related to greater awareness of the disease among physicians as well as patients, better imaging techniques and marked advances in video-laparoscopy. Increasing role of assisted reproductive technology (ART), might help in managing infertility caused by endometriosis, though it might also exacerbate preexisting endometriosis. Complete and thorough treatment of endometriosis, before or as an alternative to ART has been suggested [5,6]. The first line of treatment for mild to moderate endometriosis is generally accepted, as the surgical treatment for subfertility [7], and has been shown to improve in vitro fertilization (IVF) outcomes [5]. Lower live birth rates and pregnancy rates have been associated with endometriosis, along with lower number of oocyte retrievals with IVF. There are advantages of surgical treatment of endometriosis, whenever it is possible, as compared to ART without treatment of endometriosis is. Though there are risks of surgery in the form of diminished ovarian reserve, potential damage to ovarian

tissue, risk of oophorectomy, pelvic adhesion formations etc., in experienced hands these risks are small and benefits of treatment outweigh the risks. This is especially important knowing that women with endometriosis as have been shown to have lower anti mullerian hormone levels as compared to women without endometriosis. Since endometriosis has been associated with higher incidence of clear cell and endometrioid ovarian cancer, it is important to treat it. Findings most suggestive of malignant change are the presence of one or more contrast-enhanced mural nodules within a cystic mass [8].

Treatment of endometriosis might prevent a number of complications associated with pregnancy [4]. Various theories have been given regarding the pathophysiology of adverse pregnancy outcomes. This might be secondary to a proinflammatory event that is associated with high levels of cytokine production. Along with changes in the inner myometrium called the "junctional zone". The complications included preterm birth, placenta praevia, and small for gestational age, lower segment caesarean section (LSCS) and miscarriage [4].

Other rarer complications of endometriosis in pregnancy also have been described, which are spontaneous haemoperitoneum in pregnancy, obstetrical haemoperitoneum, bowel perforation, and rupture of the appendix. Though many endometriosis regress during pregnancy due to the progesterational effect, still there have been cases of endometriosis a rupture and abscess formation. These complications are associated with significant maternal and fetal morbidity and potential mortality. It is not clear if endometriosis is the cause of

these complications or just a marker of an independent risk factor, with no studies examining if treatment of endometriosis or endometriom improves pregnancy outcomes. There was one study that showed subfertile women who conceived spontaneously were also at greater risk of pregnancy complications like antepartum haemorrhage, LSCS, pregnancy induced hypertension, preeclampsia and very preterm birth although pregnancy induced hypertension (PIH) and preeclampsia was not found in Zullo's study. More studies are required to find the exact relationship between endometriosis and pregnancy complications.

One confounding variable in many of the studies is the use of ART; that is commonly used in patients with endometriosis. ART itself might be associated with pregnancy complications. A large population based study involving 82,793 Danish women found that adverse pregnancy outcomes remained the same when stratified for those who received ART versus those who did not. This supports the hypothesis that endometriosis is an independent risk factor for adverse outcomes regardless of ART.

Since studies were heterogeneous and not well designed, more research is needed in this area. One needs to focus on a noninvasive test for early diagnosis, treatment and prevention of this disease. CA125 levels are nonspecific, but there have been some promises shown by serum interleukin-6, as a noninvasive marker for endometriosis in a number of studies. Serum soluble intercellular adhesion molecule 1 might also be useful in diagnosing deep peritoneal endometriosis. Still more studies are needed before these tests get used widely.

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