Lead Author Q&A – Lucky Saraswat

Against the odds: Endometriosis linked to 4 times higher pregnancy rates than other causes of infertility, new study reveals

1. Is this among the largest and longest population-based studies to date examining the prevalence of endometriosis in women with infertility and their pregnancy outcomes?

   Yes, to our knowledge, this is the largest and longest population-based study examining prevalence of endometriosis in those with infertility.

   We analysed data from all women aged 13-50 years who presented with infertility to primary care in England from 1991-2020. The data was linked with secondary care records to identify those who had a surgical diagnosis of endometriosis.

   During this period, there were approximately four million women who presented with symptoms suggestive of endometriosis, such as pain or infertility. Of the 245,994 women who presented with infertility, 6.1% had a surgical diagnosis of endometriosis. 57.4% of these were diagnosed with endometriosis after the initial presentation with infertility.

2. Were you surprised by any of the findings from the study?

   While the findings were not entirely unexpected, this is the first study to quantify the associations between infertility and endometriosis in a population-based cohort of this magnitude. The results offer important, evidence-based data that will allow clinicians to counsel women more confidently about the risks of infertility among those presenting with endometriosis.

   These data are particularly relevant for women newly diagnosed with endometriosis who are concerned about their fertility. However, it's important to emphasise that infertility is multifactorial, with factors such as age playing a significant role.

3. Your findings show that women with endometriosis-associated infertility are four times more likely to have a pregnancy compared to other causes of infertility? Can you provide any insights into why this may be?

This is indeed a compelling and novel finding that could influence how we counsel women with endometriosis. Several potential explanations exist:

- Variable impact of endometriosis: Endometriosis affects fertility in diverse ways, depending on the severity and location of the disease. Women with milder forms may have better reproductive potential.
- Treatment effects: Moderate-quality evidence (Cochrane Review 2020) shows that laparoscopic surgery can improve intrauterine pregnancy rates in women with endometriosis.
- Proactive approach to fertility: Due to the well-recognised link between endometriosis and infertility, affected women may seek fertility investigations and intervention earlier, leading to more timely treatment.
- Comparison with other infertility causes: Conditions such as tubal factor infertility may require assisted reproduction exclusively, whereas women with endometriosis may conceive both spontaneously and through ART.

4. What other causes of female infertility was endometriosis compared against?

In this study, women with endometriosis-associated infertility were compared with those experiencing infertility due to other causes, including ovulatory dysfunction, tubal factors, and unexplained infertility. Women with infertility and no diagnosis of endometriosis served as the reference group.

5. Ahead of the presentation, are you able to share any details about the data on primary/secondary care infertility and pregnancy outcomes?

We are currently finalising the analysis of this data and will present it during the meeting.

6. What implications do your findings have for counselling women newly diagnosed with endometriosis regarding their fertility and pregnancy chances?

Our findings offer robust, evidence-based data that can significantly enhance fertility counselling for women newly diagnosed with endometriosis.

Specifically, the study provides information on:

- The likelihood of infertility in women with endometriosis versus those with similar symptoms but no diagnosis.
- Overall pregnancy rates and outcomes (including live birth, miscarriage, and ectopic pregnancy rates) for women with endometriosis, with or without infertility.
- Comparative pregnancy rates and outcomes in women with endometriosis-associated infertility versus those with infertility from other causes.

These insights can empower women to make informed reproductive decisions, including the timing of conception attempts or fertility preservation strategies.

7. What future research directions do you see as important to further understand the relationship between endometriosis, infertility, and pregnancy outcomes?

Key areas for future research include:

- The relationship between site and stage of endometriosis and reproductive outcomes.
- Whether laparoscopic surgery to treat endometriosis improve outcomes beyond conception, such as reducing miscarriage, ectopic pregnancy, other late pregnancy outcomes such as preterm delivery, antepartum haemorrhage etc.
- Differences in pregnancy outcomes between spontaneous and ART-assisted pregnancies in women with endometriosis.
- How do success rates and pregnancy outcomes for those with endometriosis and ART compare with those with other infertility causes (e.g., ovulatory, tubal, male factor, or unexplained).
- Identification of modifiable risk factors that could enhance fertility or pregnancy outcomes in women with endometriosis.