P-295 Does endometriosis affect oocyte quality? An analysis of 13 627 donor oocyte recipient and autologous IVF cycles

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Study question: Does endometriosis affect live birth following donor oocyte recipient versus autologous in vitro fertilisation (IVF) cycle.
Summary answer: There was no significant difference in the live birth rate (LBR) in women with endometriosis undergoing donor oocyte recipient versus autologous IVF cycle.
What is known already: For infertile women with endometriosis, IVF is often considered as a treatment option. Lower implantation and pregnancy rates have been observed following IVF in women with endometriosis when compared to tubal factor infertility. It has been debated that lower pregnancy rates following IVF in endometriosis is due to both oocyte quality and the endometrium. To delineate whether endometriosis affects oocyte quality or the endometrium, we planned a study using donor oocyte recipient model where the recipient were women with endometriosis. We compared the LBR after oocyte recipient cycle with autologous IVF in women with endometriosis
Study design, size, duration: We obtained anonymised dataset of all the IVF cycles performed in the UK since 19991 from the Human Fertilization and Embryology Authority (HFEA). Data from 1996 to 2016 comprising a total of 13 627 donor oocyte recipient and autologous IVF cycles with endometriosis and no other cause of infertility were analysed.
Participants/materials, setting, methods: Data on all women with endometriosis undergoing fresh or frozen IVF treatment cycles were analysed to compare the LBR between donor oocyte recipient and autologous treatment cycles. Logistic regression analysis was performed adjusting for number of previous IVF cycles, previous live birth, period of treatment, day of embryo transfer, number of embryo transferred, fresh and frozen cycle.
Main results and the role of chance: There was no significant difference in the LBR in women with endometriosis undergoing donor oocyte recipient fresh cycles compared to women undergoing fresh autologous IVF cycles (31.6% vs. 31.0%; odds ratio, OR 1.03, 99% CI 0.79 – 1.35). After adjusting for confounders listed above, there was no significant difference in LBR in women undergoing donor oocyte recipient fresh cycles versus fresh autologous ART cycles (aOR 1.06, 99% CI 0.79 – 1.42).

There was no significant difference in the LBR in women with endometriosis undergoing frozen donor oocyte recipient cycles compared to women undergoing autologous frozen embryo transfer cycles (19.6% vs. 24.0%; OR 0.77, 99% CI 0.47 - 1.25). After adjusting for potential confounders, there was no significant difference in the LBR in women undergoing frozen donor oocyte recipient cycles compared with autologous frozen embryo transfer cycles (aOR 0.84, 99% CI 0.50 - 1.41).
Limitations, reasons for caution: Although the analysis was adjusted for several potential confounders, there was no information on classification of endometriosis to allow adjustment.
Wider implications of the findings: The current study design does not indicate endometriosis has an impact on oocyte quality given that the outcomes in donor oocyte recipient cycles are comparable with autologous IVF cycles. These findings need to be further studied and validated.
Trial registration number: Not applicable