Abstract citation ID: deac105.041

O-141 IVF under COVID-19: treatment outcomes of fresh and frozen cycles

A. Kedem[1], S. Avraham[1], O. Yaakov[1], M. Landau Rabbi[1], I. Gat[1], G. Yerushalmi[1], M. Baum[2], E. Maman[2], A. Hourvitz[1], M. Youngster[1]

[1]Shamir medical Center, IVF Unit- Department of Obstetrics & Gynecology- Shamir Medical Center, Ber Yaakob, Israel
[2]Sheba Medical Center, IVF Unit, Ramat Gan, Israel

Study question: Does prior SARS-CoV-2 infection in women undergoing fertility treatments affect outcomes of fresh ART cycles?

Summary answer: SARS-CoV-2 infection does not affect fresh ART treatment outcomes. A possible long term negative effect on oocyte yield should be further explored.

What is known already: There is evidence that the renin–angiotensin–aldosterone system (RAS) is involved in female reproductive processes such as folliculogenesis, steroidogenesis, oocyte maturation and ovulation. The existence of the ACE2 axis and ACE2 markers were confirmed in all stages of follicular maturation in the human ovary, including the granulosa cells and follicular fluid. A single previous study found no evidence that a history of asymptomatic or mild SARS-CoV-2 infection in females caused impairment of fresh ART treatment outcomes.

Study design, size, duration: Retrospective cohort study, including all SARS-CoV-2 infected women that underwent fresh ART cycles within a year from infection (the first cycle post infection), between October 2020 and June 2021, matched to uninfected controls.

Participants/materials, setting, methods: Retrospective cohort study, including all SARS-CoV-2 infected women that underwent fresh ART cycles within a year from infection (the first cycle post infection), between October 2020 and June 2021, matched to uninfected controls.

Main results and the role of chance: 121 infected patients and 121 controls that underwent fresh ART cycles were included. Oocyte yield (12.50 vs. 11.29; $p = 0.169$) and mature oocyte rate (77.71 vs. 81.76; $p = 0.144$) in all fresh cycles were similar between groups, as werefertilization rates, number of frozen embryos per cycle and clinical pregnancy rates (42.9% vs. 40.4%; $p = 0.737$) in fresh cycles with an embryo transfer. Stratification by time from COVID-19 infection by time from infection <90 day, 90-180 days and $>$ 180 days revealed similar results with no difference in pregnancy rates. In a logistic regression model, COVID-19 infection did not affect pregnancy rates except for the small subgroup of patients who recovered more than 180 days prior to retrieval with a negative effect on oocyte yield ($p = 0.018$, Slope=-4.08, 95%CI 95% CI -0.7.41 – -0.75).

Limitations, reasons for caution: A retrospective study with data that was not uniformly generated under a study protocol, no antibody testing for the control group.

Wider implications of the findings: The study findings suggest that COVID-19 infection does not affect treatment outcomes in fresh ART cycles, except for a possible long term negative effect on oocyte yield when retrieval occurs $>$ 180 days post COVID-19 infection. Further studies are warranted in order to support these findings.

Trial registration number: HMC-0010-21