

SARS-CoV-2 RNA in Follicular Fluid, Granulosa Cells, and Oocytes of COVID-19 Infected Women Applying for Assisted Reproductive Technology

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Abstract:

Background

The Coronavirus disease 2019 (COVID-19) pandemic has raised concerns regarding the application of assisted reproductive technology (ART) in the world. Many ART programs have been delayed or continued with new precautions due to the ambiguity about vertical transmission and pregnancy safety. Regarding the possible risks of SARS-CoV-2 infection on ART and the resultant embryos, this study aimed to investigate the presence of SARS-CoV-2 in follicular fluid, granulosa cells, and oocytes of COVID-19-infected women undergoing ART.

Materials and Methods

COVID-19-positive polymerase chain reaction tests were reported for five women undergoing ART cycles on the day of oocyte retrieval. SARS-CoV-2 tests were performed on oocytes, granulosa cells, and follicular fluid obtained from these COVID-19-infected women.

Results

SARS-CoV-2 RNA was detected only in one follicular fluid sample; however, other follicular fluid samples, granulosa cells, and oocytes were negative regarding viral RNA.

Conclusion

Given the unknown effects of COVID-19 on human reproduction and ART, strict precautions should be taken during the COVID-19 pandemic.

Keywords:

SARS-Cov-2 , Follicular Fluid , Oocyte , Granulosa Cell , Reproduction