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CONCLUSIONS: Women with adenomyosis showed an altered expression of genes involved in endometrial decidualization, with a higher rate of non-receptive endometrium than control. Progesterone timing based on the transcriptomic analysis does not improve IVF outcomes in women with adenomyosis. Although progesterone is the essential hormone for implantation and pregnancy, its timing administration by endometrial transcriptomic signature does not improve IVF outcomes in patients with adenomyosis. Therefore, other molecular mechanisms may be involved in implantation failure in women with adenomyosis.

IMPACT STATEMENT: The time of progesterone administration based on endometrial transcriptomic analysis does not improve IVF outcomes in women with adenomyosis. Our findings open insights into the importance of studying other molecular mechanisms that could be affecting endometrial decidualization in adenomyosis.

MC & EJ-B contributed equally.

SUPPORT: F119/001110, APOSTD/2020/123, CP20/00120.

P-398 6:45 AM Tuesday, October 25, 2022

POTENTIAL INFLUENCE OF CORONAVIRUS DISEASE 2019 (COVID-19) ON THE OUTCOMES OF IN-VITRO FERTILIZATION. Mert Yesiladali, MD, PhD,1 Melis Gokce Kocer Yazici, M.D.,2 Seda Kuzucu, IV, MD,3 Oya Alagoz, MD,4 Rukset Attar, MD, PhD, Gazi Yildirim, MD,5 Ezkan Attar, MD, PhD,6 Yeditepe Universitesi, Istanbul, Turkey; 7YEDITEPE UNIVERSITY HOSPITAL, Istanbul, Turkey; 8Yeditepe University Faculty of Medicine, Istanbul, Turkey; 9Yeditepe University, Atasehir, Turkey; 10Yeditepe University Hospital, Istanbul, Turkey.

OBJECTIVE: The objective of this study was to evaluate the impact of the coronavirus disease 2019 (COVID-19) on in-vitro fertilization (IVF) outcomes.

MATERIALS AND METHODS: 43 patients out of the 725 women who were treated in our infertility clinics were infected by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) between March 2020 – December 2021. This study was conducted using the data available from 9 women aged 28-43 who had undergone infertility treatment prior to and after recovery from COVID-19. Quantities of the total oocytes, germinal vesicle (GV), degenerative oocyte, metaphase-II (M2) oocyte and degeneration ratio as well as the ratio M2 oocyte / total oocyte quantity of the patients before and after COVID-19 were used as the primary outcomes in this comparative analysis. Data of the patients who applied to our clinic for infertility treatment were collected from the hospital archives. The obtained data were compared and analyzed by the paired samples t-test and Wilcoxon’s test.

RESULTS: A total of 9 patients met the inclusion criteria for this study. It is found that there is no significant difference in the quantities of the total oocyte, GV, degenerative oocyte, M2 oocyte and degeneration ratio, ratio M2 oocyte / total oocyte of the patients before and after COVID-19 (see Table 1).

CONCLUSIONS: When comparing the primary indicators of the patients prior to and after recovery from COVID-19, none of the measures are found to be significantly different.

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IMPACT OF MATERNAL RACE AND ETHNICITY ON PREGNANCY OUTCOMES IN INFERTILE WOMEN WITH AND WITHOUT POLYCYSTIC OVARY SYNDROME (PCOS) UNDERGOING IN VITRO FERTILIZATION (IVF) IN THE UNITED STATES (US). Guido Jesus Mora, M.D.,1 Fabiola D’Ambrosio, MD,2 Alan Schwartz, PhD,3 Bert Scoccia, MD4 University of Illinois at Chicago, Chicago, IL; 2University of Illinois at Chicago, Chicago, IL; 3University of Illinois at Chicago, Chicago, IL; 4University of Illinois at Chicago, Chicago, IL.

OBJECTIVE: The primary objective was to compare IVF live birth rates in White (W), Asian (A), Hispanic (H) and African American (AA) women with and without PCOS in the US.

MATERIALS AND METHODS: This is a retrospective study using a large de-identified cohort from the SART-CORS database. It includes 256,018 patient records from 2014-2017, and 128,703 met our study inclusion criteria, which were women 21-40 years of age, who were undergoing their first non-donor fresh IVF cycle. PCOS was defined as oligo-anovulation (<6 cycles/year) and polycystic appearing ovaries. Controls were non-PCOS patients with other causes of infertility. Race and ethnicity were self-reported by patients. Logistic regression models were used to calculate the primary outcomes, live birth rate, and other secondary outcomes. These models examined race per PCOS patient, adjusting for patient’s age, BMI, smoking status, and number of embryos transferred. Two-way ANOVA was used to compare continuous variables and Chi-square for categorical variables. A p-value <0.05 was considered statistically significant.

RESULTS: There were 21,866 women in the PCOS group and 106,837 women with and without PCOS in the US.

CONCLUSIONS: Women with adenomyosis showed an altered expression of genes involved in endometrial decidualization, with a higher rate of non-receptive endometrium than control. Progesterone timing based on the transcriptomic analysis does not improve IVF outcomes in women with adenomyosis. Although progesterone is the essential hormone for implantation and pregnancy, its timing administration by endometrial transcriptomic signature does not improve IVF outcomes in patients with adenomyosis. Therefore, other molecular mechanisms may be involved in implantation failure in women with adenomyosis.

MC & EJ-B contributed equally.

SUPPORT: FI19/001110, APOSTD/2020/123, CP20/00120.

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Table 1. Primary Parameters of the In Vitro Fertilization Patients Before and After COVID-19

| Parameter                  | Mean   | Std. Dev. | Std. Err. Mean | P     |
|----------------------------|--------|-----------|----------------|-------|
| T.OOCYTE QTY.              | 10.556 | 5.59265   | 1.86422        | 0.250 |
| M2 OOCYTE QTY.             | 8.667  | 5.59017   | 1.86339        | 0.738 |
| Deg.OOCYTE QTY.            | 6.000  | 4.00000   | 1.33333        | 0.705 |
| Deg. OOCYTE QTY.           | 5.444  | 4.53076   | 1.51025        | 0.815 |
| Deg. OOCYTE QTY.           | 1.000  | 2.64575   | .88192         | 1.000 |
| Deg. OOCYTE QTY.           | .333   | .50000    | .16667         | .019  |
| GV QTY.                    | 1.4444 | 1.58990   | .52997         | 1.000 |
| GV QTY.                    | 1.4444 | 1.74005   | .58002         | 1.000 |
| Deg. / TOTAL               | .0498  | .11963    | .03988         | 1.000 |
| Deg. / TOTAL               | .0700  | .16371    | .05457         | 1.000 |
| M2/TOTAL                   | .6033  | .26249    | .08750         | 1.000 |
| M2/TOTAL                   | .7600  | .20821    | .06940         | 1.000 |

*paired sampl. t test
bWilcoxon’s