Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

souporcell[5] were used to identify cells of donor (tissue-resident) or recipient (peripheral) origin in UTx recipients. Single cell data was integrated using the Harmony[6] algorithm.

RESULTS: A total of 26,547 cells from UTx recipients met quality standards and were included in the aggregated data set. The vast majority of cells detected were stromal cells (65%) followed by immune cells (20%), epithelial cells (5%) and endothelial cells (3%). Over 70% of cells in each broad cell type were derived from tissue resident cells (donor-derived) with the notable exception of the immune cells in which >90% of cells were derived from cells migrating to the uterus from the periphery (recipient-derived) (see Table). Few cells (0-1% in all subtypes) could not be assigned donor or recipient origin. Despite being a highly altered model, the cellular composition of the endometrium following UTx was similar to that of HC.

CONCLUSIONS: Our study demonstrates that tissue resident progenitor cells support endometrial regeneration and peripherally derived cells are present in every endometrial cell subtype. Immune cells are the notable exception, since the vast majority of immune cells migrate to the uterus from the periphery.

IMPACT STATEMENT: Research from human uterus transplant using cutting edge technology and bioinformatic programs facilitates identification of cell origin in the endometrium and will enable comparisons that may have implications on endometrial regeneration and stem cell biology.

Table. Percentage of Cells Derived from Donor and Recipient in the Endometrium Following Uterus Transplant

Cell Type	Donor	Recipient
Stromal	71%	28%
Epithelial	79%	21%
Immune	7%	93%
Endothelial	85%	14%
Supporting	72%	26%

IFI Pilot Grant, Penn Institute for Immunology

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[2] PMID: 30643263
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[6] PMID: 31740819
SUPPORT: R01-12720939, NIH

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ANALYZE OF THE GENE EXPRESSION PROFILES OF SARS-COV-2-ASSOCIATED RECEPTORS AND PROTEASES IN HUMAN ENDOMETRIUM DURING ART PRACTICE.

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OBJECTIVE: Covid-19 pandemic has significantly affected the assisted reproductive technology (ART) practice. Understanding whether SARS-CoV-2 could infect endometrial tissues during ART is crucial for risk mitigation.

MATERIALS AND METHODS: To address this question, we retrospectively examined the gene expression profile of SARS-CoV-2-associated receptors and proteases in endometrial biopsies of a cohort of ART candidates using Affymetrix microarray data. Human endometrial tissue under natural (n=62) and COS cycles (n=42) were analyzed. A focus was particularly made on the renin-angiotensin system relates genes with a prominent role in the virus infection, and gene expression levels of receptors and proteases closely related to SARS-CoV-2 infectionwas also studied.

RESULTS: Using our large cohort of endometrial samples, we reported a high prevalence of genes related to the ACE2 pathway, including *AGT*, *AGTR1*, *ANPEP*, *CTSA*, *ENPEP*, *LNPEP*, *MME*, *NLN*, *THOP1*, *BSG* and *CTSL* during both phases(early- and mid-secretory phase), and mainly during the mid-secretory phase for *ACE2*. The highest signal intensities were found for *CTSA*, *LNPEP*, *MME*, *NLN*, *BSG* and *CTSL*. The most representative of dual coexpression of SARS-CoV-2-associated receptor and protease in endometrium was *BSG-CSTL* and *BSG-CTSA*. It s also important to note high variation of SARS-CoV-2 receptors inter-patients under natural cycle.Globally, the impact of COS on endometrial gene expression profile of SARS-CoV-2-associated receptors and proteases of non Covid-19 patients is low, suggesting no additional potential risks of SARS-CoV-2 infection during stimulated ART procedure compared with natural cycles.

CONCLUSIONS: Analyses of gene expression profiles ofSARS-CoV-2 host entry candidates from microarray data suggest that endometrium should be considered as potential target for SARS-CoV-2 infection.

IMPACT STATEMENT: Specimens from female genital tract may be considered as potential targets for SARS-CoV-2.

SUPPORT: This work was supported by public institutions of the French INSERM and the University Hospital of Montpellier as well as Ferring Pharmaceutical.

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THE ROLE OF THE ENDOMETRIAL RECEPTIVITY ANALYSIS (ERA) IN PATIENTS WITH NON-RECURRENT IMPLANTATION FAILURE IN THE CHINESE POPULATION.

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OBJECTIVE: This study aims to investigate whether personalized embryo transfer (pET) guided by endometrial receptivity analysis (ERA) improves the clinical pregnancy rate for non-recurrent implantation failure (non-RIF) in vitro fertilization (IVF) patients in the Chinese population.

MATERIALS AND METHODS: This study is a single-center, retrospective cohort study of patients with 0-2 previous failed implantations following high-quality embryo transfer at Chengdu Jinjiang District Maternal and Child Health Care Hospital between January 2020 and December 2020. Reproductive outcomes comparison was completed for patients undergoing pET guided by ERA (n = 53) and 530 patients undergoing frozen embryo transfer (FET) using a standard progesterone protocol (approval No. 2019-020). The control group was matched using a ratio of 1:10 in select patients who did not undergo ERA. FET was completed by standard progesterone timing in our hospital using a hormone replacement cycle. The main outcomes for this study were clinical pregnancy rate and WOI displacement ratio in non-RIF patients.

RESULTS: A total of 53 non-RIF patients were tested for ERA; 20 cases (37.73%) were detected as receptive, and 33 cases (62.26%) were detected as non-receptive. One case (1.89%) was post-receptive (96 ± 3 hours) and 32 cases (60.38%) were pre-receptive (144 ± 3 hours). Finally, 46 patients underwent pET guided by ERA. In the control group, 530 non-RIF patients underwent FET with standard timing. The clinical pregnancy rate was significantly higher for pET with ERA than for the standard pET group (71.74% vs 53.96%, $P = 0.020$). The clinical pregnancy rate was significantly higher for patients in the ERA group with two previous IVF-ET failures compared to the FET group (77.27% vs 52.15%, $P = 0.026$). The differences in biochemical pregnancy rate and spontaneous abortion rate between the two groups were not statistically significant.

CONCLUSIONS: The use of ERA to guide pET improves clinical pregnancy rate in non-RIF patients, especially those with two previous IVF-ET failures. These results should be further validated with additional prospective, multicenter, randomized clinical trials in the Chinese population.

IMPACT STATEMENT: This is the first study to investigate the effect of ERA on clinical outcomes in Chinese patients with non-RIF (0-2 failures) and the proportion of displaced WOI in the non-RIF population.

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DEVELOPMENT OF ENDOMETRIAL ORGANOIDS FROM AN ENDOMETRIAL BIOPSY.

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OBJECTIVE: Aims: 1) to establish a methodology of growing and maintaining endometrial organoids from an in-office endometrial biopsy; 2) to develop a biobank of endometrial organoids derived from women with infertility.

MATERIALS AND METHODS: Patients underwent an in-office endometrial biopsy (Pipelle) at a designated time within the menstrual cycle or at