NATIONAL TRENDS OF ASSISTED REPRODUCTIVE TECHNOLOGY CYCLES WITHOUT AN INFERTILITY DIAGNOSIS, 2014-2021

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Introduction

Over the past 40 years, the advent of in vitro fertilization (IVF) has assisted many individuals and couples with conception; furthermore, advances in assisted reproductive technology (ART) have continued to be refined and evolve. The available data on perinatal outcomes in neonates born after IVF show an increased relative risk, but minimal absolute risk, of specific endpoints including preterm delivery and differences in birth weight, even amongst singleton deliveries. There is a paucity of data in determining if the increased risk is a result of underlying infertility or the ART procedure itself.

At present, there is increasing use of ART for non-infertility related indications. A continued knowledge gap exists, with an increasing amount of data, on ART cycles without an infertility diagnosis.

Objective

The purpose of this study was to investigate national trends and characteristics of ART cycles that were performed without an infertility indication, utilizing the Society for Assisted Reproductive Technology Clinic Outcome Reporting System (SART-CORS) data. We also plan to characterize the pregnancy outcomes per transfer in both fresh and frozen cycles, for patients <35 years and >35 years.

Materials and Methods

Data for this study were obtained from the SART-CORS system. Using all autologous fresh and frozen IVF cycles performed in the US between 2014 – 2021 among nulliparous patients. Our study group of interests were patients with an indications listed as: 1) no infertility diagnosis and underwent preimplantation genetic testing for monogenic disorders (PGT-M) or 2) no infertility diagnosis and utilizing donor sperm. We excluded gestational carrier cycles, donor egg cycles, male factor infertility, frozen oocyte cycles, and patients with a prior live birth.

Results

From 2014 – 2021, 205,580 IVF cycles were performed in which there was not an indication of infertility. Of those cycles without an infertility indication, 32,692 utilized PGT-M and 9,745 utilized donor sperm. Absolute numbers of IVF cycles being performed without an infertility diagnosis increased from 20,042 in 2014 to 34,463 in 2021 (Figure 1). Trends in our study group of interest show the largest rate of increase in the use of PGT-M, from 1,549 cycles to 7,842 in 2021 (Figure 2).

Conclusion

Among reported cycles, the utilization of IVF for non-infertility related indications has increased greatly. Particularly the use of PGT-M has increased exponentially over the 7 years assessed in this study. Assessment of retrieval and transfer cycle characteristics would allow for future studies that may assess for pregnancy and obstetric outcomes that may differ between patients undergoing ART for a diagnosis of infertility compared to those undergoing ART for non-infertility related purposes.

*At the time of abstract submission, our research group is in the process of evaluating cycle characteristics of these groups detailed above. Additionally, we are evaluating pregnancy outcome data to elucidate if the infertility diagnosis, as opposed to the ART itself, confers maternal and fetal risks seen within these pregnancies.

Figure 1: Total number of autologous fresh & frozen IVF cycles performed without and infertility diagnosis over study period (2014-2021)

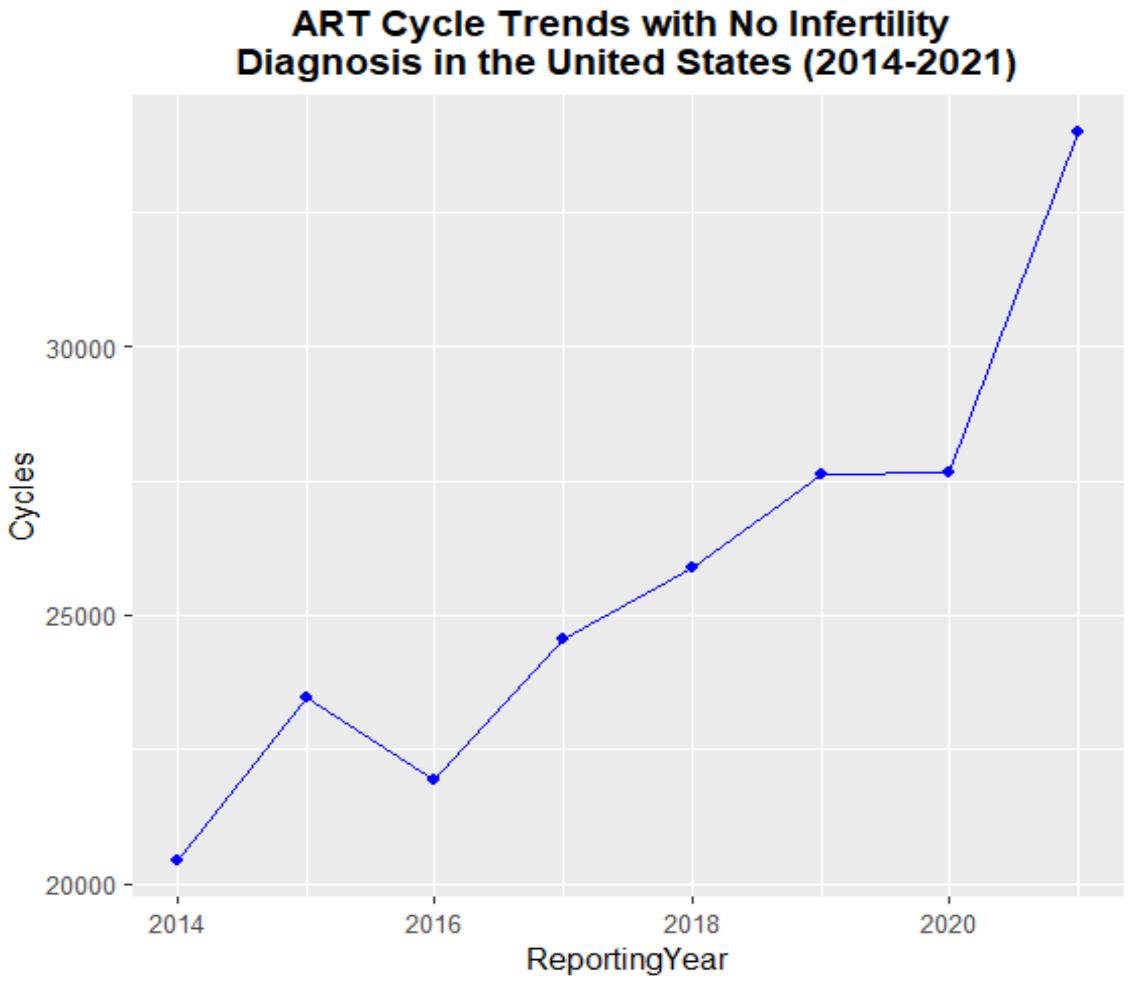
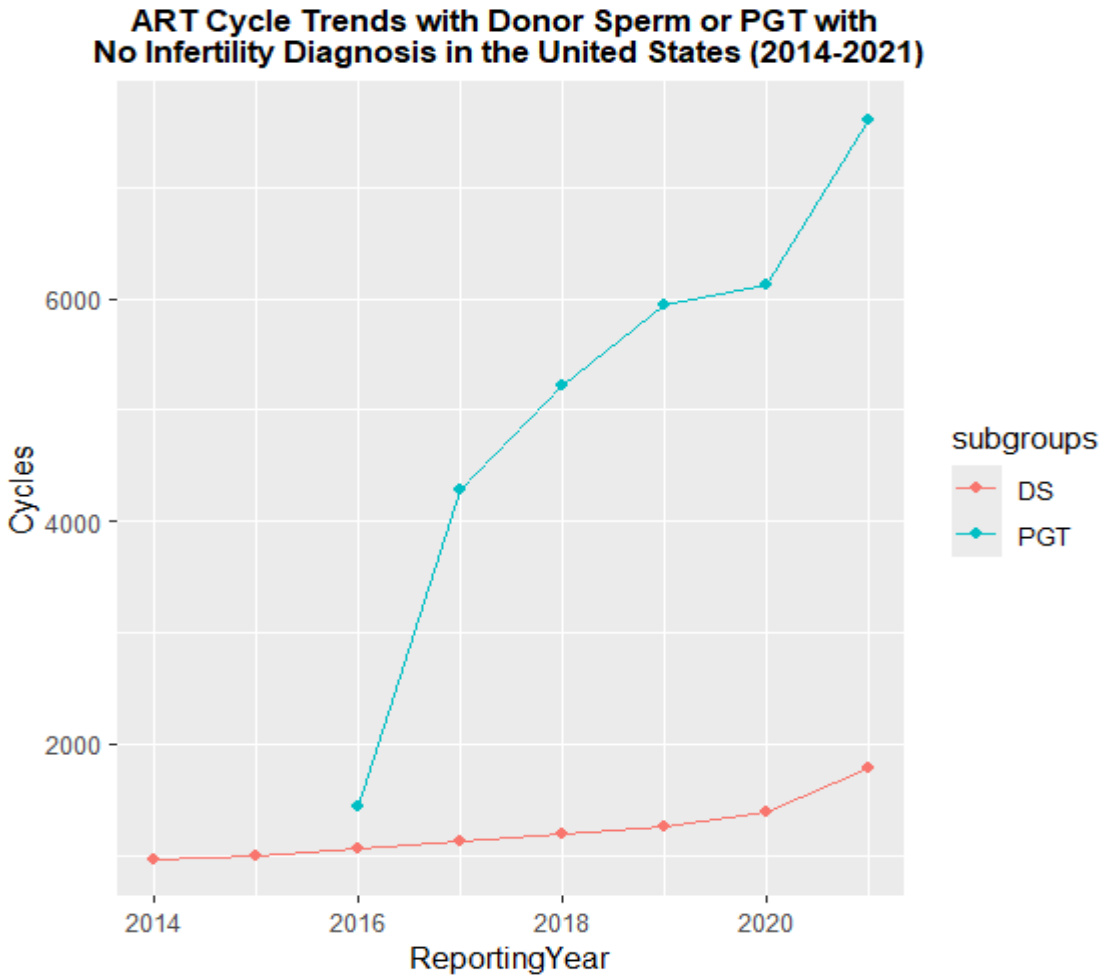


Figure 2: Total number of autologous fresh & frozen IVF cycles performed over study period



Notes: DS: Donor Sperm; PGT: Preimplantation Genetic Testing