WHEN AUTOLOGOUS OOCYTE CRYOPRESERVATION (AOC) PATIENTS THAW THEIR EGGS: ONE THIRD CHOOSE DONOR SPERM (DS)

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Background
Many patients choose to undergo AOC because they are unpartnered or not ready for conception. However, there are little data about the sperm choices patients make at the time of their AOC thaw.

Objective
Our objectives were to evaluate: (1) the percentage of AOC thaw patients who use DS, and (2) if the characteristics and AOC outcomes differ based on sperm source (donor vs. partner).

Materials and Methods
This retrospective cohort study examined all patients who thawed autologous oocytes at a large academic center between 2006 and 2021. Patients were excluded if AOC was performed for a medical reason, as research, due to no sperm or a natural disaster, with embryo cryopreservation, or for gestational carrier usage. Patients were stratified by sperm source at 1st thaw: DS vs. partner sperm (PS). Outcomes included age at AOC and thaw, relationship status at thaw, time between 1st AOC and thaw, fertilization rate (FERT) and cumulative live birth rate (CLBR) per patient. Statistics included Mann-Whitney U, chi squared, and two sample t-tests (p<0.05 significant).

Results
658 patients were included. At 1st thaw, 456 (69.3%) patients used PS and 202 (30.7%) used DS. 200 (99.0%) used anonymous DS and 2 (1.0%) used a directed donor. Patients who used DS were more likely to be single (p<0.001). 17 patients were partnered and chose to use DS; 7 were in a same sex relationship, 7 had partners who were not ready for family building, 2 had male factor infertility, and 1 was a joint carrier of a recessive condition. Patients using DS were older at AOC (38.5 vs. 37.9 years (y), p<0.001), but the proportion of patients ≥40y at AOC (23.6% vs. 18.2%, p=0.11) was equivalent. Patients who used DS were also older at the time of the thaw (43.1 vs. 42.3y, p<0.002) and more likely to be ≥40y at their thaw (93.6% vs. 80.3%, p<0.001), but not more likely to be ≥45y (18.7% vs. 18.4%, p=0.92). Time from 1st AOC to 1st thaw did not differ among the DS and PS groups (mean: 56.8 vs. 54.0 months, p=0.20). Patients using DS were more likely to wait ≥5y (45.8% vs. 37.5%, p<0.04) from AOC to thaw, but the DS and PS groups were equally likely to wait ≥10y (1% vs. 2%, p=0.36). Patients using DS had higher FERT compared to those using PS (median 78.6% vs. 71.4%, p<0.04), however CLBR from AOC was similar (40.8% DS vs. 38.9% PS, p=0.68). 64 patients completed ≥2 thaws; 26 (40.6%) initially used DS and only 1 patient switched from DS to PS for their 2nd thaw.

Conclusions
Approximately one third (30.8%) of AOC patients used DS when they returned for a thaw. Older age at AOC and thaw were associated with the use of DS, but time to return was not. FERT was higher among the DS group, however the overall CLBR did not differ by sperm source.

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References
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