AUTOLOGOUS SPERM FREEZING - IS IT TIME FOR A PARADIGM RESTART?

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Objective: To evaluate sperm freezing and usage patterns over 30 years according to demographic parameters (age at first cryopreservation and number of children), and indication for cryopreservation.

Main outcome measure: In a population-based cohort study, first we determined the interval between first sperm sample and use. Then, we examined sperm usage separately for: 1) age - comparison of patients grouped into 5-year age cohorts; 2) paternal status according to number of children; 3) indication - comparison between 7 indications. Secondary analysis included correlations between main age groups and paternal status vs. the four most common indications.

Results: During the study period 1490 men who cryopreserved sperm met the inclusion criteria. Average age during cryopreservation of the first sample was 33.9±8.1 years. Average age for first sperm usage was 37±8.5 years. Cumulative sperm usage was 38.7% after 17.8 years. Increasing age was associated with progressive increase in sperm usage rate and shorter preservation period. Use significantly decreased with increasing number of children. Examination of seven reasons for sperm cryopreservation found the highest cumulative sperm usage was related to azoospermia (67.7%), followed by functional cryopreservation (39.3%), oligoasthenoteratospermia (27.3%), other (26.5%), patient’s request (24%), cancer (19%) and systemic disease (7.2%). Secondary analysis defined specific usage patterns mainly related to age and indication, with less of an effect based on the number of children.

Conclusion: After decades of cryopreservation, the paradigm of sperm cryopreservation as mostly related to cancer patients, should be reevaluated and evolve to include broader patient-targeted perceptions.