NOVEL MEDIUM PRESERVES SPERM VITALITY AND CONFERS PROTECTION FROM OXIDATIVE STRESS INDUCED INJURY COMPARED WITH ESTABLISHED MEDIA FOR ALL SUBJECTS AND HAS COMPARABLE CRYOPROTECTION CAPACITY

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INTRODUCTION

• Cryopreservation allows men to preserve their fertility.
• Cryopreservation greatly reduces sperm parameters and increases DNA damage.
• Study objective was to examine if the new cryopreservation medium “Arctic sperm cryopreservation medium” (ASCM) improve sperm parameters and provide better cryoprotection from injury and oxidative stress (OS)-induced damage compared with Origio sperm freezing media (OSFM).

EXPERIMENTAL DESIGN

Prospective randomized controlled
• Normozoospermic donors (n=22)
• Infertile men (n=20)

RESULTS

• ASCM required less medium than OSFM [0.53 mL (CI 0.39-0.93) vs. 1.50 mL (CI 1.10-2.04 p<0.0001)].
• The change in normalized ORP from pre-freeze (PF) to post-thaw (PT) was found to be significantly increased in OSFM compared to ASCM (2.05, CI 1.15 to 3.23 mV/106/mL, vs.1.01, CI 0.54 to 1.75 mV/106/mL, p=0.011). (Fig. 1).
• The overall decrease in viability was significantly higher in OSFM compared to ASCM (39.0(CI: 38.0-47), 26.5(CI: 22-28), P=0.0048). (Fig. 2 and Table 1).

CONCLUSION

• The novel medium is a xeno-free medium with dual buffering capacity, economical and can be used for better viability preservation and protection from OS especially in abnormal patient.
• Future controlled studies with larger sample size are needed to compare ASCM with the other established sperm freezing medium such as Test yolk buffer and Sperm freeze solution to validate the findings of this study.