Objective: CryoTESE is the modality of choice in the management of non-reconstructable obstruction of the excurrent duct system in cases where epididymal sperm aspiration is unsuccessful. It also serves as a back-up source of sperm cells for future ICSI attempts in obstructive azoospermic patients undergoing corrective surgery. However, there is very little information in the literature documenting the cryosurvival of spermatozoa obtained from surgically retrieved testicular tissue. The purpose of our study was to evaluate the cryosurvival of testicular spermatozoa after the freeze-thaw cycle and to scrutinize the effectiveness of freezing protocol used in our institution.

Design: Retrospective study at a tertiary care institution.

Materials and Methods: This study involved 21 cases of obstructive azoospermia (OA) who underwent testicular biopsy and subsequent cryopreservation of retrieved tissue at our institution between April 2002 and May 2004. The patients presented with primary or secondary infertility following obstruction due to previous surgery, infection or inflammation. Before surgery, all patients underwent a physical examination and work-up by a male infertility specialist. Testicular tissue samples (n= 2 -14) were retrieved upon confirmation of the presence of sperm cells by frozen section histopathology and microscopic examination of wet preparation during surgery. These samples were then labeled and sent for cryopreservation to the Andrology laboratory. Tissue samples were individually mixed with fresh HTF and manually mashed to produce a suspension for cryopreservation. Before freezing, a droplet (5µL) of this suspension was assessed at 400 X magnification on an inverted microscope (Nikon Diaphot, Japan) for presence of motile spermatozoa. Similarly, the presence of motile spermatozoa was determined immediately after the thawing process.

Results: All 21 patients who underwent testicular biopsy followed by cryopreservation at our center demonstrated motile spermatozoa after the freeze-thaw process. Only one out of 21 patients had rare motile sperm in his post thaw sample. The etiology of obstructive azoospermia or the previous fertility status had no influence on motility outcomes in these patients.

Conclusion: The presence of motile sperm in all of our patients after cryopreservation
and thawing as seen in this series is in agreement with few similar studies reported in the literature. These results validate that testicular spermatozoa from OA patients could be frozen successfully for use in future assisted reproduction.

Support: None

Author Disclosure Block:  S.A. Prabakaran, None; A. Agarwal, None; A.J. Thomas, None.

Category (Complete):  Male Reproduction and Urology: Clinical (SMRU)
Keyword (Complete):  spermatozoa ; azoospermia ; sperm
Additional (Complete):
  Presenting Author Fellow : Yes
  In-Training Award : True
  ACCME Disclosure : I will not be discussing non-FDA approved products
  I Agree : True

Status: Complete