Objective: Various forms of testicular biopsy have been used for the diagnosis as well as for retrieval of spermatozoa in azoospermic men. Fine needle aspiration cytology (FNAC) is one such technique. The objectives of this study were: 1) identification of different cell types in the testis by using FNAC and touch imprint cytology (TIC), and, 2) assessment of the utility (sensitivity and specificity) of an intraoperative FNAC and TIC in the evaluation of male infertility.

Design: Prospective study

Materials and Methods: This prospective study used FNAC, TIC and permanent histology to evaluate seminal parameters in 31 azoospermic men. The study was conducted in a University-based infertility clinic at a tertiary care facility. The biopsy materials and cytological preparations were stained with haematoxylin and eosin stain. TIC samples were made by touching the cut surface of the biopsy specimen to a glass slide as well as its scrapping by the edge of another glass slide. These slides were fixed in 95% ethanol and stained by H&E. The cytological results were available within 5-20 minutes allowing the authors to render an immediate diagnosis. The proportion of spermatogenic versus Sertoli cells was calculated. The cytological results were compared to the conventional histopathological diagnosis. History and clinical examination, semen analysis, testosterone, FSH, and LH were also performed.

Results: The use of TIC, showed normal spermatogenesis (n=9), spermatogenic arrest (n=17) and unsatisfactory results (n=5), while FNAC revealed cases of normal spermatogenesis (n=11), spermatogenic arrest (n=13) Sertoli cell only (n= 7) and unsatisfactory results (n=2). The above numbers were 10, 12, 7, and 2, respectively, using conventional histological assessment. The mean ratio of spermatogenic cells to Sertoli cells was higher in cases with normal spermatogenesis (20.02±6.05 versus 4.09±1.4) than in cases with spermatogenic arrest [10.2±1.65 versus 3.23±0.62; (P<0.026)]. Sensitivity and specificity of TIC preparation cytology were 98% and 100%, respectively while the values for the FNAC were 83% and 93%, respectively. Serological results were
unremarkable.

Conclusion: Testicular FNAC is a reliable, simple, and accurate method for the evaluation of male infertility and can therefore replace the testicular biopsy. We suggest that the latter should be used only when insufficient conclusions are drawn from the cytological preparations or for the purpose of assisted reproduction. TIC is a good adjunct to the testicular biopsy in male infertility.

Support: None

**Author Disclosure Block:** A. Abdelmoneim, None; M.R. Hussein, None; M.A. Bedaiwy, None; A. Ibraheem, None; M.E. Osman, None; A. Agarwal, None.

**Category (Complete):** Male Reproduction and Urology: Clinical (SMRU)

**Keyword (Complete):** azoospermia, testis, sertoli cells

**Additional (Complete):**
  
  Poster Only: True
  Presenting Author Fellow: Yes
  In-Training Award: True
  ACCME Disclosure: I will not be discussing non-FDA approved products
  I Agree: True

**Status:** Complete