Targeted sperm retrieval: Step-by-step video of TESE mapping in non-obstructive azoospermia

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ABSTRACT

Introduction: Non-obstructive azoospermia (NOA) is one of the most challenging causes of male infertility, often requiring surgical sperm retrieval techniques such as Testicular Sperm Extraction (TESE). Mapping biopsy techniques during TESE have improved sperm retrieval rates while minimising testicular damage. **Objectives:** To demonstrate a systematic approach to testicular sperm extraction (TESE) mapping in a patient with non-obstructive azoospermia, highlighting the surgical technique, intraoperative considerations, and post-operative care. **Materials and Methods:** This educational video presentation outlines the step-by-step process of TESE mapping, including preoperative planning, anatomical landmarks, multi-site sampling, tissue handling, and coordination with the embryology lab for immediate sperm identification. Key tips for optimising retrieval while preserving testicular function are discussed. The video features a real surgical case with commentary. **Results:** The video demonstrates successful sperm retrieval using a strategic mapping approach. The technique reduced the number of unnecessary biopsies and provided better localisation for potential future procedures, and ease of communication between clinicians **Conclusion:** Mapping-guided TESE is an effective, minimally invasive approach for sperm retrieval in NOA patients. This video aims to serve as a visual guide for clinicians, trainees, and reproductive surgeons to refine their surgical technique and improve outcomes in male infertility treatment.