From Azoospermia to Fertility: A Successful Case of mTESE Treatment
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INTRODUCTION/OBJECTIVES: Infertility is diagnosed clinically in heterosexual couples who cannot achieve pregnancy after a year of having intercourse without using birth control. Statistically, every sixth couple in Croatia is infertile and 50% of infertility cases are male-originated.

CASE PRESENTATION: A 30-year-old healthy male patient presented with a two-year failed conception with a reproductively healthy partner. He had no history of mumps infection or sexually transmitted diseases and denied any testicular trauma. Spermiogram demonstrated no vital sperm in the ejaculate, corresponding to azoospermia. His FSH (54 mIU/mL) and LH (14 mIU/mL) levels were very high, and his testosterone level was optimal (9.53 nmol/L). In search for the cause, Color Doppler Ultrasonography of testicles ruled out tumors, and genetic testing verified a normal 46 XY karyogram with no Y-chromosome microdeletion. Therefore, the patient was diagnosed with idiopathic non-obstructive azoospermia.

Biopsy results of the right testicle showed mixed atrophy and significant tubular fibrosis. In the left testicle, rare foci of hypospermatogenesis with mature sperm and spermatids were present. For treatment, he underwent Microdissection Testicular Sperm Extraction (mTESE), intending to isolate vital sperm sufficient for in vitro fertilization by intracytoplasmic sperm injection (IVF/ICSI). Morphologically and functionally healthy sperms were extracted and cryopreserved in the sperm bank in five cryotubes which supply five IVF/ICSI attempts.

CONCLUSION: mTESE-extracted sperms are used in combined procedures with IVF/ICSI in collaboration with a gynecologist to achieve offspring. Therefore, mTESE is the most effective method for treating severe male infertility known as non-obstructive azoospermia, which is a growing public health problem in Croatia.