

The Role of Diabetes Mellitus in Male Reproductive Function: Review

Donika Dimova, Ekaterina Pavlova, Nina Atanassova*

*Institute of Experimental Morphology, Pathology and Anthropology with Museum,
Bulgarian Academy of Sciences, Acad. G. Bonchev Str., bl.25, 1113, Sofia, Bulgaria*

* Corresponding author: Ekaterina Pavlova, e_bankova@yahoo.com

Diabetes mellitus (DM) induced long-term damage, dysfunctions and failures of various organs including abnormalities in male reproductive system. A lot of studies in both human and animals show that both type I and type II diabetes can cause male infertility via action at multiple levels including altered spermatogenesis, sperm count and quality, degenerative and apoptotic change in germ cells, impaired glucose metabolism in Sertoli cells compromised testosterone production and secretion and ejaculatory dysfunction. The aim of current review is to analyze the mechanisms of the two types of DM (I and II) and their impact on spermatogenesis on cellular and molecular level, evaluating hyperglycemia as a risk factor for male infertility.

Key words: diabetes mellitus, hyperglycemia, spermatogenesis, germ cells, male infertility