Opinion

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Antidepressants and Male Infertility: Involvement of Spermatogonial Stem Cells Self-renewal Disruption

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Nearly 350 million people are affected by depression world-wide and antidepressants are the most commonly used medications [1,2]. Recently, it has been reported that the percentage of Americans on antidepressant therapies had nearly doubled, increasing from 6.8% to 13% and selective serotonin reuptake inhibitors (SSRIs) are the most commonly used antidepressant [3]. In line with that, it was also found that SSRIs treatment can lead to sexual side effects in 55% of patients [4]. Moreover, experimental evidence revealed that SSRIs administration depletes testicular germinal epithelium resulting in defective spermatogenesis and reduced male fertility [5,6].

Spermatogonial stem cells (SSCs) as self-renewing adult stem cells in the testis are responsible for regulated continual spermatogenesis throughout the most of a male's lifespan and their biological activities can be influenced by chemicals and/or radiation induced testicular damages [7,8]. Supporting these facts, it has been shown that SSRIs are associated with SSCs self-renewal suppression in adult rats confirming the possible involvement of these compounds in male germline maintenance disruption [9].

Accordingly, since antidepressants may cause severe testiculopathy, profound considerations should be given to the drastic consequences of their increased consumption.

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