

Testicular Torsion Treatment as a Male Reproductive Health Concern

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Short Communication

Testicular torsion is a true urological emergency and its annual incidence in men/boys younger than 25 years is 1 in 4000. This acute condition occurs most often (40% to 65%) in the neonatal period and around puberty [1].

Testicular salvage rates following appropriate diagnostic and surgical managements range from 42% to 88% [2]. The main pathophysiological mechanisms underlying bilateral testicular damages following torsion-detorsion have been shown to be related to ischemia-reperfusion [3-5].

Semen analyses as well as oxidative stress, histopathological and blood parameters evaluations after testicular torsion surgical treatments in experimental studies have shown marked abnormalities in both testes compared to normal standard values [3-8].

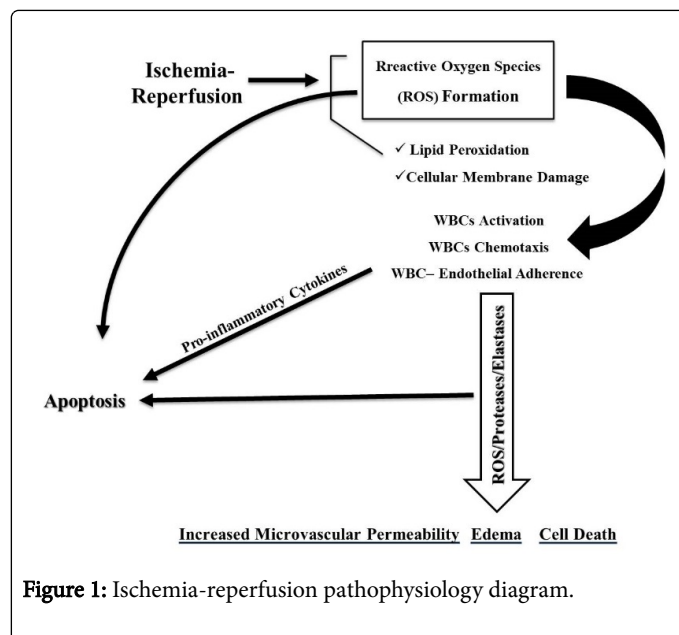


Figure 1: Ischemia-reperfusion pathophysiology diagram.

The degree of fertility loss following testicular torsion depends on the extent of the ischemia and the subsequent damage to the contralateral testis. Substantial body of growing evidence has suggested that testicular ischemia impairs the blood-testis barrier and exposes the contralateral testis to the potential risk of autoimmunization against its own spermatogenic cells [9].

Recently, attempts have been geared toward searching and evolution of novel therapeutic approaches such as adjunctive therapy to

counteract complications arising from ischemia-reperfusion as a clinically important goal.

Based on this concept, several pharmacological agents as well as surgical interventions have been examined to prevent or reverse ischemia-reperfusion induced fertility problems [5-12].

Based on critical roles of reactive oxygen species over-production and inflammatory responses (Figure 1) in the bilateral testicular malfunction following torsion invasive treatment, post-surgical administration of safe anti-oxidant and anti-inflammatory agents could be beneficial.

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