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## JOURNAL ARTICLE

# Stagnation of blood in the microvasculature of the affected and contralateral testes of men with short-term torsion of the spermatic cord

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Bilateral testicular biopsies from four men with a short duration (3 hours 10 minutes to 4 hours 30 minutes) of unilateral spermatic cord torsion and testicular biopsies from six men with irreversible brain death were used for the present investigation. Extensive light and electron microscopic studies and quantitative analyses of all biopsy materials were performed. The torsioned testes revealed variable degrees of damage to the seminiferous tubules, including germ cell disorganization and sloughing of immature germ cells. Ninety-five percent of the blood vessels from the biopsied tissue specimens were clogged with blood cells. The seminiferous tubules of the contralateral testis had normal germ cell arrangements and counts. However, 88% of the microvessels from the tissue biopsied from the contralateral testes were packed with blood cells, whereas only 10% of the blood vessels in the control biopsy specimen were clogged with blood cells. At the electron microscopic level, fewer tight junctions and enlarged pores were found between the endothelial cells of the affected vessels, and microvilli were completely absent from these endothelial cells. The clogging caused by blood cells in the affected vessels was so severe that no space was found between the membrane of the endothelial cell and the membrane of the blood cells. It has been suggested that local clogging by blood is responsible for the initiation of degenerative changes in the testes of men with unilateral torsion of the spermatic cord.

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