

Pengaruh Kombinasi *Mannitol* dan *Methylprednisolone* terhadap Fungsi Testis Tikus Wistar Torsio-Detorsio : Derajat Histopatologi Spermatogenesis dan Sel Nekrotik Tubulus Seminiferus

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Abstrak

Latar Belakang: Torsio testis merupakan salah satu kasus gawat darurat di bidang urologi. *Mannitol* dan *Methylprednisolone* merupakan obat yang sudah diteliti dapat mengurangi cedera iskemik reperfusi akibat torsio detorsio tetapi belum diteliti efek kombinasi obat tersebut pada kasus tersebut.

Tujuan: Tujuan penelitian ini adalah menganalisis perbedaan derajat histopatologi spermatogenesis dan jumlah sel nekrotik tubulus seminiferus antar kelompok tikus Wistar yang dilakukan torsio-detorsio pada pemberian kombinasi *Mannitol* dan *Methylprednisolone*.

Metode: Penelitian ini menggunakan studi ekperimental.*post-test only control group design*. Terdiri dari 5 kelompok, masing-masing kelompok terdiri dari 5 sampel, dibandingkan kelompok kombinasi *Mannitol* dan *Methylprednisolone* dengan kelompok *Mannitol* tunggal, kelompok *Methylprednisolone* tunggal, kelompok torsio-detorsio dan kelompok kontrol.

Hasil: Terdapat perbedaan bermakna antara kelompok yang diberikan kombinasi *Mannitol* dan *Methylprednisolone* dibandingkan dengan kelompok *Mannitol* yang diberikan secara tunggal, kelompok *Methylprednisolone* secara tunggal dan kelompok tanpa pemberian obat tersebut. Sel nekrotik pada tubulus seminiferus tidak didapatkan.

Simpulan: Derajat histopatologi *spermatogenesis* antar kelompok tikus Wistar yang dilakukan torsio-detorsio pada pemberian kombinasi *Mannitol* dan *Methylprednisolone* lebih baik dibandingkan pemberian *Mannitol* tunggal. pemberian *Methylprednisolone*, maupun tanpa pemberian obat.

Kata kunci : Torsio detorsio, kombinasi, *Mannitol*, *Methylprednisolone*, *Johnsen score*

The Effect of Mannitol and Methylprednisolone Combination on Testicular Function of Wistar Rats with Testicular Torsion-Detorsion: Spermatogenesis Histopathology Degree and Necrotic Seminiferous Tubule Cells

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Abstract

Background: Testicular torsion is one of urology emergency cases. Mannitol and Methylprednisolone are known to reduce ischemic reperfusion injuries due to testicular torsion, but the combination of these drugs have not been explored before.

Objective: To analyze difference of spermatogenesis histopathology degree and necrotic cells in seminiferous tubules between groups of Wistar rats with testicular torsion on administration of Mannitol and Methylprednisolone combination.

Method: An experimental study, post-test only control group design was performed. Five groups consisted of 5 samples each were compared, which were classified into combination of Mannitol and Methylprednisolone treatment, a single Mannitol treatment, a single Methylprednisolone treatment, untreated testicular torsion and a control group.

Results: There were significant differences in the combination of the Mannitol and Methylprednisolone administration when compared with the single Mannitol, the single Methylprednisolone, and untreated group. No necrotic cells were found in the seminiferous tubules.

Conclusion: The spermatogenesis histopathology degree among groups of Wistar rats with testicular torsion was better with administration of Mannitol and Methylprednisolone combination than a single Mannitol, a single Methylprednisolone, or without drug administration.

Keywords: Torsion detorsion, combination, Mannitol, Methylprednisolone, Johnsen score