

Editorial Comment on Hormonal Function, Testicular Ultrasonography and Erectile Function in Children with Past History of Testicular Torsion

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Though long passed are the days of rushing to orchiectomy for prolonged torsion and testicular trauma, in fear of impending "sympathetic orchitis", insight into actual immune mediated mechanisms for aggravated injury to testicular tissue has steadily grown. Most of this is borne by the study of experimentally induced orchitis, demonstrating the inductive role of upregulated TNF- α , IFN- γ , IL-6 and NO, which impede local steroidogenesis and limit regulatory T cell activity. Interestingly, the same experimental models support beneficial effect from exogenous testosterone toward expanding regulatory T cell clones and preventing the rapid post ischemic progression of apoptosis, sloughing and fibrosis in seminiferous tissue.¹

The authors have revisited the impact of ischemic injury from torsion of the cord on subsequent spermatogenesis and hormonal milieu of the hypothalamic-pituitary-gonadal axis. Although this study did not include a group of healthy age and body mass matched controls, it still reveals smaller than predicted gonads on both sides. Conspicuously, there was no compensatory growth (to above normal dimensions) of the remaining testis following orchiectomy in this cohort of peripubertal boys.² Although racial and regional variation is a plausible factor,² this may suggest the implication of a common systemic pathway that governs the total viable gonadal mass (such as inhibin). A larger sample size would allow to see whether FSH and Inhibin correlate with the degree of atrophy sustained on the pexed side of bilaterally preserved gonads, through paired analysis.

A staggering 47% of pexed testes in this report ended up suffering marked atrophy, telltale of protracted symptomatic phase before corrective surgery. This must alert the health community that there is much more work to be done toward addressing torsion in public health education programs. We must further convey the urgency of seeking immediate care for acute scrotal pain, among parents and health workers tending to the pediatric population. Lastly, only 25% of detorted gonads were removed in this series, far less than many international cohorts. As such, the same high atrophy rate can point to reluctance among surgeons in opting for orchiectomy, owing in part to social and medicolegal concerns.

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2. Shadpour P, Kashi AH, Arvin A. Scrotal testis size in unilateral non-palpable cryptorchidism, what it can and cannot tell: Study of a Middle Eastern population. *J Pediatr Urol.* 2017;13(3):268.e1-268.e6. doi:10.1016/j.jpuro.2016.12.013

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