عنوان مقاله:

Evaluation of epididymal necrospermia following experimental chronic spinal cord injury in rat

محل انتشار:

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خلاصه مقاله:

Background: Spinal cord injury (SCI) occurs most often to young men at the peak of their reproductive health. Only 10% of SCI men can father children without medical assistance due to potential impairments in ejaculation and sperm quality. Objective: The main objective of this experimental study was to evaluate theepididymal necrospermia- sperm death, after chronic SCI in rat. Materials and Methods: Forty-five adult Wistar rats were divided into 3 groups ofSCI, sham, and control. Following laminectomy, SCI was induced onto exposed dura matter (T10) of anesthetized rats. Sham group underwent laminectomy of T10 only; while, control rats were not exposed to any type of injury or medication. Thespermatozoa from cauda epididymis were aspirated after 50 days for analysis ofnecrospermia with three assays of Eosin-Y staining, Hypo-osmotic swelling (HOS), andHoechst 33258 fluorescent dye. Results: The rate of necrospermia in SCI rats was significantly increased whencompared with other groups ($p<0.05$). Also, the rates of necrspermia in SCI sampleswere similar with application of 3 assays (Eosin-Y: 46.11±9.41; HOS: 45.88±8.89;Hoechst: 46.76±9.31). Total necrospermia was not observed in any of the epididymal samples.Conclusion: The results showed that chronic SCI is associated with high rate ofepididymal necrospermia in mammals such as rats. It is, therefore, recommended that aneffective laboratory technique, such as Hoechst 33258 should be used for separation of live and motile sperms from necrospermic ones for assisted reproduction program

کلمات کلیدی:

Spinal cord injury, Spermatozoa, Necrospermia, Rat