

P-093 Inflammasome complex gene expression and its relationship with infertility of male rats after spinal cord injury

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Study question: Evaluation of Inflammasome genes expression and their activity pattern in testis of spinal cord injury (SCI) rat models.

Summary answer: Testis is one of the sources of inflammasome genes which induces pyroptosis and resulted in reduction of sperm concentration and motility in SCI model.

What is known already: Many young men with spinal cord injury (SCI) suffer from infertility. Previous studies showed the low sperm concentration, motility and abnormal morphology in SCI infertile men. Some researchers suggested immunologic reasons for diminished sperm quality in SCI patients. They identified some inflammasome complex productions such as caspase-1 in sperm of these patients, but the class of upstream genes and the time of starting activity in this complex was not determined clearly.

Study design, size, duration: Mature male rats were used in this study. The rats were divided into four groups (n = 4): three surgery groups that SCI at level of T10 performed on them and one intact group as control. We sacrificed group one, a day after SCI surgery, group two, 3 days after and group 3 a week after surgery. Testes were collected. The most known inflammasome upstream genes expression includes NLRP1a, NLRP3, NLRC4, and AIM2 were assessed.