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JOURNAL ARTICLE

Temporal appearance of anti-sperm antibodies during sexual maturation of rats after obstruction of the vas deferens

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The appearance of serum anti-sperm antibodies was studied during the maturation of rats in which the vas deferens was obstructed prepubertally. Vasa deferentia were ligated and divided bilaterally in 10-day-old Lewis rats, while control animals received a sham operation at the same age. At ages between 14 and 128 days, blood samples were assayed for anti-sperm antibodies using an enzyme-linked immunosorbent assay. There were no differences between obstructed and sham-operated groups in mean anti-sperm antibodies from 14 through 56 days. However, in 91- and 128-day-old rats mean anti-sperm antibody levels were much higher in obstructed than in control animals. This rise in anti-sperm antibodies occurred several weeks after the development of spermatids in the testes between 23 and 46 days. The presence of elevated anti-sperm antibodies in obstructed animals followed temporally the appearance of sperm throughout the lumen of the entire epididymis and the formation of spermatic granulomas. The results in this model suggest that consideration be given to repair of injured or obstructed vas deferens prior to puberty to forestall development of anti-sperm antibodies, as well as the formation of spermatic granulomas.

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