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JOURNAL ARTICLE

Temporal appearance of antisperm autoantibodies in Lewis rats following vasectomy

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An indirect enzyme-linked immunosorbent assay (ELISA) was employed to monitor antisperm autoantibodies in 16 Lewis rats for up to 36 weeks following vasectomy. This assay was capable of discriminating all prevasectomy from postvasectomy sera at a 1:16 dilution. Weekly serum samples were obtained for the first 13 weeks and bimonthly samples thereafter. Half of the animals developed a positive antisperm autoantibody response by the end of the first postoperative week. By the end of the second week, 81% of the animals had positive responses. The greatest proportion (88%) of animals having a positive response over the course of the study was found at the end of the seventh postoperative week and the highest mean absorbance value for all 16 animals was observed at this time. Only 25% of the animals had positive responses for antisperm autoantibody at the end of the 35th week of the study. These findings indicate that circulating antisperm autoantibodies arise in the Lewis rat earlier than has been generally appreciated. The time course is similar to that of antibody titers to infectious agents or arising from inoculation of rats with spermatozoa. These findings on autoantibody levels in the Lewis rat are compared with the dynamics of antisperm autoantibody formation in man.

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