

Fibrin-glue assisted vasoepididymostomy: A comparison to standard end- to-side microsurgical vasoepididymostomy in the rat model.

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Abstract:

Purpose. The use of fibrin glue for vasovasostomy has produced high patency rates in animal models. Vasoepididymostomy is a microsurgical technique that might be made easier if fibrin glue could substitute for microsutures. We evaluated the efficacy of a new vasoepididymostomy technique using fibrin glue. **Materials and Methods.** Bilateral vasoepididymostomies were performed in 24 male Sprague-Dawley rats using a conventional microsurgical technique on one side and a fibrin-glue assisted technique on the other. The rats were sacrificed 30 days after surgery and anastomotic patency was assessed by examining the vasal fluid for sperm, injecting methylene blue dye into the vas deferens and observing backflow into the epididymis by gross inspection and histological studies. Additionally, the incidence of granuloma formation was compared between the two techniques. **Results.** Fibrin-glue anastomoses showed a patency rate of 79% ($n = 19$), compared with 63% ($n = 15$) for the conventional suture anastomoses ($p = 0.29$). Among the patent anastomoses, the incidence of sperm granuloma formation between the sutured (12, 50%) and the fibrin glue anastomoses (16, 67%) did not differ significantly ($p = 0.36$). Morphological tissue changes were similar for the two techniques. The time required for anastomosis using fibrin glue was significantly shorter than the conventional suture technique ($p < 0.001$). **Conclusions.** Conventional suturing techniques for vasoepididymostomy require advanced microsurgical skills. The use of fibrin glue simplifies this procedure and provides patency rates comparable to microsutured, end-to-side anastomoses.