Microvascular anastomoses. A comparative study of fibrinogen adhesive and interrupted suture techniques.

Authors: Bowen CV, Leach DH, Crosby NL, Reynolds R

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Abstract:

A modified sleeve technique was developed for making microsurgical anastomoses using a commercially produced fibrinogen adhesive called Tisseel. A controlled study was then carried out to compare the new fibrinogen adhesive anastomoses with conventional suture anastomoses in a bilateral groin flap model using 50 consecutive rabbits. Statistical analysis of the results indicated that flap survival rate and vascular patency rate were comparable for the two techniques. The fibrinogen adhesive anastomoses took less time to complete and, subjectively, were less difficult technically. The suture anastomoses were more versatile. Histologic studies revealed that the adhesive did not flow through the sleeve into the lumen, and that, although there was a brief inflammatory response associated with healing, this inflammation was very localized and did not involve the inner layers of the vessel wall or lumen. It was concluded that the new technique was a useful addition to techniques already available.