Fibrin glue application in microvascular anastomosis: Comparative study of two free flaps series.

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Abstract:

Background: Since the first experiments with fibrin glue application in microvascular anastomoses in 1977, several studies have reported its benefits on suture reduction and anastomosis decreased time. In spite of that, clinical experience has been limited to two neurosurgical and two replantation case series, all of them with good results. This study was conducted to evaluate the feasibility and the potential benefits of fibrin glue application in free flaps. Methods: We performed 24 free flaps in 24 patients, from March 2005 to June 2006. Twenty were included in this study. They were divided into two groups according to the anastomosis technique: conventional group (n = 7 patients) and fibrin glue group (n = 13 patients). In the conventional group, the anastomosis was performed with interrupted sutures, whereas in the fibrin glue group, they were performed using less sutures and fibrin glue application. Results: The application of fibrin glue cut by half the number of sutures required to complete the anastomoses. The mean arterial and venous anastomotic times in the conventional group were 27.2 and 24.0 minutes, respectively. In the fibrin glue group, they were 13.6 and 12.6 minutes, respectively. All these differences were statistically significant. There was no significant difference of ischemic time between two groups (P = 0.26). The survival rate of the flaps was similar in both groups: 84.6% (11 of 13) in the fibrin glue group and 85.7% (6 of 7) in the conventional group (P = 1.0). Conclusions: Fibrin glue application in free flaps was feasible and allowed us to complete the anastomoses with fewer sutures and less time. The survival rate of the flaps was not adversely affected by the fibrin glue.