A reinforcement of the sutured microvascular anastomosis with fibrin glue application: A retrospective comparative study with the standard conventional technique.

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Abstract:

Purpose: Although a reasonable number of studies report satisfactory results with fibrin glue application in microvascular anastomosis since 1977, its utilization in the clinical setting has being scant in the literature. The aim of this study was to report the cumulated experience with the fibrin glue in free flaps over a period of 10 years, comparing the survival rate with the standard sutured anastomosis. Patients and methods: From August 2001 through November 2014, 83 consecutive free flaps were performed by a team of surgeons from two hospitals. About 56 flaps were performed in 56 patients using the fibrin glue augmented microvascular anastomosis and 27 flaps were performed in 27 patients using the conventional anastomosis technique. The decision on whether or not the fibrin glue should be used at the anastomoses was based on its availability and whose surgeon was performing the anastomoses. About approximately 60% of sutures stitches were used that would be used in a conventional anastomosis, when fibrin glue application was anticipated (ranging from 5 to 7 sutures in the arteries and 5 to 8 in the veins). Results: The overall survival rate of the flaps performed with fibrin glue application was 92.85%. In one case, a revision of the venous anastomosis was required due to early flap congestion. Four cases (7.14%) had failure of the first free flap and two of them were submitted to another free flap without fibrin glue application. In the flaps performed with the conventional anastomosis technique the survival rate was 92.59%. This difference was not statistically significant (P = 0.97). Conclusion: The application of fibrin glue in

microvascular anastomoses did not increase the rate of flap loss and had a potential to reduce the number of sutures required to complete an anastomosis by its sealing effect. © 2016 Wiley Periodicals, Inc. Microsurgery 37:218-221, 2017.