

A new method of applying fibrin glue at the microvascular anastomotic site: The 'Paintbrush' technique.

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Abstract:

Fibrin glue has been used by several researchers to seal microvascular anastomoses sites. Usually the glue is delivered at the site with a syringe and needle. However, this technique can result in excess deposition of glue, which can cause intravascular thrombosis and can harden the vessel wall. We describe a new technique that avoids both these problems. We designed a 'paintbrush' by inserting a suture through the syringe needle and then using the suture tip as a brush to apply the fibrin glue. End-to-side anastomoses were performed between the femoral artery and femoral vein in ten rats. Only two sutures were used to perform the anastomosis, the rest of the anastomosis being completed by sealing the gaps with fibrin glue. All the anastomoses were patent after 2 weeks, and no thromboses occurred. This is a new method for applying fibrin glue that delivers an adequate amount of fibrin glue without causing thrombosis.