

Fibrin glue injection method with diluted thrombin for refractory postoperative digestive fistula.

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Abstract:

BACKGROUND: The injection of the biological adhesive fibrin glue is often performed to treat postoperative digestive fistulas. However, it is not always effective especially in case of complex fistulas with large cavities, because the fibrin glue will coagulate before the mixed solutions fill the cavity, creating dead space. We report the results of fibrin glue injection with diluted thrombin solution.

METHODS: We studied the tensile strength and coagulation time of the resulting fibrin glue at each dilution of the thrombin solution. Based on in vitro study, 18 patients who had developed postoperative digestive fistula were treated by fibrin glue injection with diluted thrombin solution.

RESULTS: In vitro study proved that the dilution of thrombin prolonged the coagulation time of the fibrin glue to more than 1 minute with almost no change to the tensile strength of the glue until a certain dilution was reached. The fistulas of 16 patients were successfully closed.

CONCLUSIONS: Our simple method of fibrin glue injection is useful for refractory postoperative digestive fistula, even in cases of complex fistula with large cavities.