The use of fibrin glue for the repair of experimental nasal CSF leak in rats. [Japanese]

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Abstract:

Surgical repair of cerebrospinal fluid (CSF) leak requires the production of a seal competent to resist CSF pressure during the period of healing. Direct suturing, packing with muscle and fat grafts, and coverage with mucosal or muscle flaps have been effective in repairing most CSF leaks. Fibrin glue will improve the results of a CSF leak repair by providing better adhesion of the graft and improving the initial seal during healing. Experiments were performed on 39 rats to assess the effectiveness of fibrin glue in repairing experimentally produced CSF leaks. CSF leak was produced by creating defects at the cribriform plate. There were four experimental groups; 1. no treatment control; 2. fibrin adhesive alone; 3. muscle packing alone; 4. fibrin glue with muscle packing. The CSF leaks were evaluated 3 weeks after repairs. Persistent CSF leakage was noted in 89% of group 1, 55% of group 2, 33% of group 3, and 22% of group 4. The result in the muscle plus fibrin glue group suggests that fibrin glue, by its adhesive sealing properties, improves the results of muscle packing alone for the treatment of nasal CSF leak.