

Prevention of cerebrospinal fluid leakage after microsurgical drezotomy without use of fibrin glue.

Authors: Sasaki T.

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Abstract:

Introduction: Cerebrospinal fluid (CSF) leakage is a common complication after intradural spinal surgery. Because persistent CSF leakage puts patients under significant risk of poor wound healing, meningitis and arachnoiditis, meticulous wound closure is important. Spinal surgery has a higher incidence of CSF leakage because of the high intradural hydrostatic pressure. Numerous methods have been developed to prevent CSF leakage after spinal surgery including use of fibrin glue, polyglycolic acid mesh and vicryl mesh. Our experience to prevent CSF leakage with 375 patients who underwent intradural spinal surgery is reported here. There was significant advantage in the incidence of CSF leaks comparing previous reports. Methods: Three hundred and seventy-five patients underwent intradural spinal surgery between 2001 and 2012 in Tokyo Woman's Medical University. One hundred and ten patients underwent selective dorsal rhizotomy, 99 underwent selective peripheral denervation, 89 underwent removal of intradural spinal tumor, 55 underwent Microsurgical DREZotomy, 5 were treated for tethered cord syndrome, 15 for arteriovenous fistulas and two were treated for adhesive arachnoiditis. Dural closure was performed by 4-0 nonabsorbable continuous suture. We performed 4 or 5 layers closure and we sew each layer on underneath structure. Meticulous closure is important at both ends of the incision. Each stitch was left until we finish closing the layer to confirm the gap of suture. We didn't use fibrin glue or polyglycolic acid mesh. Results: No symptomatic CSF leakage and no infection were marked in any case. Several cases showed postoperative pseudomeningocele but all cases have no symptoms. Conclusions: There was no CSF leakage in our series of 375 intradural spinal surgery. Watertight dural closure is

not essential if muscles and subcutaneous tissues are closed meticulously. Fibrin glue is not indispensable to prevent CSF leakage. Extradural CSF collection does not cause of persistent complications.