

THE VALUE OF AUTOLOGOUS FAT GRAFTING IN PREVENTION OF CSF-RELATED COMPLICATIONS FOLLOWING INTRADURAL SPINAL TUMOR SURGERY

Kovacevic M¹, Splavski B¹, Arnautovic K.^{2,3}

¹Department of Neurosurgery, "J. J. Strossmayer" University of Osijek School of Medicine, Osijek, Croatia;
²Semmes-Murphey Neurosurgery Clinic, Memphis, TN, USA; University of Tennessee Health Science Center, Memphis, TN, USA

e-mail: markkova@gmail.com

Aim. The reported incidence of complications related to cerebrospinal fluid (CSF) leak following intradural spinal tumor (IST) surgery is high. Treating these complications may require prolonged bed rest, external lumbar drain, surgical re-exploration, antibiotics, and prevention of further possible complications. To alleviate the risk of postoperative CSF-related complications, we adopted the intraoperative use of autologous fat grafting.

Methods. A cohort of 37 patients having IST surgery was analyzed. In all of them an abdominal fat autograft was applied during dural closure. After the tumor was resected and the dura closed, CSF leak was prevented with the enforcement of sutures by a fat autograft. Additionally, a thin layer of fat tissue and fibrin glue were placed over the dura to obliterate any dead space and to prevent formation of a low-pressure space where CSF could pool and form a pseudomeningocele.

Results. Adopting a fat autograft technique, no postoperative CSF-related complications were observed in our patients' series.

Conclusion. The prospective use of autologous fat grafting may ensure watertight dural closure and obliterate the dead space created during surgical exposure and bone removal. Using such a technique in patients with IST surgery, postoperative CSF-related complications may be considerably reduced if not completely eliminated. Additional learning is needed to support our findings.