

Hemostasis and other benefits of fibrin sealants/glues in spine surgery beyond cerebrospinal fluid leak repairs.

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Abstract:

Background: Fibrin sealants (FS)/glues (FG) are primarily utilized in spinal surgery to either strengthen repairs of elective (e.g., intradural tumors/pathology) or traumatic cerebrospinal fluid (CSF) fistulas. Here, additional roles/benefits of FS/FG in spine surgery are explored; these include increased hemostasis, reduction of scar, reduction of the risk of infection if impregnated with antibiotics, and its application to restrict diffusion and limit some of the major complications attributed to the controversial "off-label" use of bone morphogenetic protein (rhBMP-2/INFUSE).

Methods: We reviewed multiple studies, focusing not just on the utility of FS/FG in the treatment of CSF fistulas, but on its other applications. Results: FS/FG have been primarily used to supplement elective/traumatic dural closure in spinal surgery. However, FS/FG also contribute to; hemostasis, reducing intraoperative/postoperative bleeding/transfusion requirements, length of stay (LOS)/costs, reduced postoperative scar/radiculitis, and infection when impregnated with antibiotics.

Nevertheless, one should seriously question whether FS/FG should be applied to prevent diffusion and limit major complications attributed to the "off-label" use of BMP/INFUSE (e.g., limit/prevent heterotopic ossification, dysphagia/respiratory decompensation, and new neurological deficits).

Conclusions: FS/FG successfully supplement watertight dural closure following elective (e.g., intradural tumor) or traumatic CSF fistulas occurring during spinal surgery. Additional benefits include: intraoperative hemostasis with reduced postoperative drainage, reduced transfusion requirements, reduced LOS, cost, scar, and prophylaxis against infection (e.g., impregnated with antibiotics). However, one should seriously question whether FS/FG should be used to contain the

diffusion of BMP/INFUSE and limit its complications when utilized "off-label". Copyright:

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