

# **Autologous fibrin sealant (Vivostat<sup><sup></sup></sup>) in the neurosurgical practice: Part I: Intracranial surgical procedure.**

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## **Abstract:**

Background: Hemorrhages, cerebrospinal fluid (CSF) fistula and infections are the most challenging postoperative complications in Neurosurgery. In this study, we report our preliminary results using a fully autologous fibrin sealant agent, the Vivostat<sup><sup></sup></sup> system, in achieving hemostasis and CSF leakage repair during cranio-cerebral procedures. Methods: From January 2012 to March 2014, 77 patients were studied prospectively and data were collected and analyzed. Autologous fibrin sealant, taken from patient's blood, was prepared with the Vivostat<sup><sup></sup></sup> system and applied on the resection bed or above the dura mater to achieve hemostasis and dural sealing. The surgical technique, time to bleeding control and associated complications were recorded. Results: A total of 79 neurosurgical procedures have been performed on 77 patients. In the majority of cases (98%) the same autologous fibrin glue provided rapid hemostasis and dural sealing. No patient developed allergic reactions or systemic complications in association with its application. There were no cases of cerebral hematoma, swelling, infection, or epileptic seizures after surgery whether in the immediate or in late period follow-up. Conclusions: In this preliminary study, the easy and direct application of autologous fibrin sealant agent helped in controlling cerebral bleeding and in providing prompt and efficient dural sealing with resolution of CSF leaks. Although the use of autologous fibrin glue seems to be safe, easy, and effective, further investigations are strongly recommended to quantify real advantages and potential limitations.