

ADHESIVE SEALANT BIOMATERIALS

Clinical Series

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Use of TissuePatch™ for Dural closure for revision craniotomy

- TissuePatch™ used for original dural closure

Pre-operative status

A 33-year-old female first presented in 2010 with a large right posterior frontal low grade glioma. In March 2011 she underwent awake craniotomy & resection of this tumour. At the time of dural closure, TissuePatch™ was used as an adjunct. The histology was confirmed as Diffuse Astrocytoma, WHO Grade II. During subsequent follow-up, a small area of T2 hyperintensity was noted to be enlarging in the deep aspect of the previous resection cavity, heading towards the corona radiata. Overall this was felt most likely to represent tumour recurrence as it was increasing in size. Following careful discussion, plans were made for revision surgery (again awake).

Surgical procedure

Surgery was performed in June 2013. The patient was positioned supine with head rotated to the left. An incision was made through the previous surgical scar, exposing the previous craniotomy bone flap, which was elevated. The dura was noted to be intact with a slightly granular appearance to it (see figure 1). There was no evidence of excessive scarring in relation to the previous use of TissuePatch™ in March 2011. Dural opening was performed in standard manner, again with no unexpected difficulty.

With the aid of neuronavigation, the area in question was identified and removed for histopathological analysis. Following satisfactory haemostasis, the dura was closed using interrupted sutures (figure 2). A 50x50mm sheet of TissuePatch™ was applied. The bone flap was secured with miniplates and the wound closed in standard manner.



Figure 1: Appearance of dura

Treatment with TissuePatch™

A 50x50mm TissuePatch™ (TP-02) was used. It did not require trimming. It was applied as per the instructions for use. During placement, the patch rapidly conformed to the contours of the underlying tissues. It provided an immediate and effective seal to CSF leakage as an adjunct to the sutures (figure 3).



Figure 2 Dura closed with interrupted sutures



Figure 3 Sutured dura covered with TissuePatch™

Summary

The use of TissuePatch™ ensured the watertight closure of the dura. Postoperatively the patient recovered well with no CSF leak. She was discharged rapidly following surgery with no complications.

Surgeon opinion of TissuePatch™

There were no unexpected problems relating to the previous use of TissuePatch™. The dura was not adversely affected by the previous use of this dural sealant.

For this revision case, TissuePatch™ was easy to apply and required no advance preparation. In this case, the product was held in place for 60 seconds and formed an effective seal against CSF leak.