



Intraoperative sealing of dura mater defects with a new, purely synthetic, self adhesive patch – an application study

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1 - Objective

We describe the clinical application of a new, purely synthetic, self adhesive material (TissuePatchDural® (TPD), Tissuemed Ltd, Leeds, United Kingdom)

2 – Patients & Methods

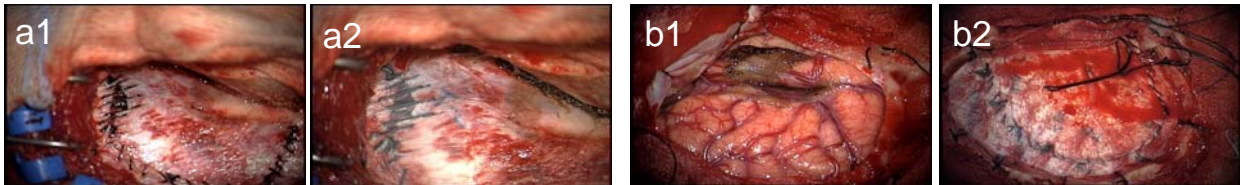
25 patients: (14 f, 17– 81 yrs, mean 51.3 yrs)

- 15 brain tumor, 6 epilepsy, 2 ICH, 1 cavernoma, 1 trigeminal neuralgia
- 4 patients had been operated before
- craniotomy: 20 supratentorial, 5 posterior fossa

Intraoperative: visible leaks, provoked leaks (PEEP)

- cut off size 5 x 5 mm, suture not adapted
- Sealing of leakage site with TPD (if required – multiple)

3 – Intraoperative features



subtemporal selective AHE: before (a1), after (a2) use of TPD

transylvian selective AHE: open situs (b1), after (b1) use of TPD

4 – Intra-/postoperative results

24 complete intraoperative dural closure, 1 intraop. EVD

No intraoperative complication due to use of TPD

Intraop handling: – rating: 10 different Neurosurgeons:

Poor – 0, satisfied – 3, moderately satisfied – 10, extremely satisfied – 12

Postop. Course: 23 uneventful, 2 CSF fistula

5 – Follow - Up

- 3 patients died (not attributable to use of TPD)
- no unspecific, clearly attributable complications
- overall: 2 CSF fistula (1x conservative, 1x CSF shunt)

postop Radiation - / Chemotherapy – 12 patients

Postop. MRI: – no subclinical subcutaneous fluid collections (16 patients)

6 – Discussion/ Conclusion

- high impact of complete dural closure on reducing postop. complications^{1,2}
- convincing surgical applicability
- no material related postop. complications, no foreign body reactions
- Use of TPD provides safe and fast dura sealing