Liqoseal

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Liqoseal consists of a Water-tight layer of Polyester urethane and an adhesive layer containing polyethylene glycol-N-hydroxysuccinimide (PEG-NHS). It is designed to prevent Cerebrospinal fluid fistula after intradural surgery.

Kinaci ert al. assessed the safety and biodegradability of Liqoseal in a porcine craniotomy model.

In 32 pigs a craniotomy plus durotomy was performed. In 15 pigs Liqoseal was implanted, in 11 control pigs no sealant was implanted and in 6 control pigs a control dural sealant (Duraseal or Tachosil) was implanted. The safety of Liqoseal was evaluated by clinical, MRI and histological assessment. The degradation of Liqoseal was histologically estimated.

Liqoseal, 2 mm thick before application, did not swell and significantly was at maximum mean thickness of 2.14 (±0.37) mm at one month. The foreign body reaction induced by Liqoseal, Duraseal and Tachosil were comparable. Liqoseal showed no adherence to the arachnoid layer and was completely resorbed between 6 and 12 months postoperatively. In one animal with Liqoseal, an epidural fluid collection containing CSF could not be excluded.

Liqoseal seems to be safe for intracranial use and is biodegradable. The safety and performance in humans needs to be further assessed in clinical trials [1)].

1)
Kinaci A, Bergmann W, van Thoor S, Redegeld S, van der Zwan A, van Doormaal TPC. Safety and biodegradability of a synthetic dural sealant patch (Liqoseal) in a porcine cranial model. Animal Model Exp Med. 2021 Dec 21;4(4):398-405. doi: 10.1002/ame2.12184. PMID: 34977491; PMCID: PMC8690992.