

## ABSTRACT

### THE COMPARISON OF DURAPLASTY USING AMNIOTIC MEMBRANE AND FASCIA: A CLINICAL EXPERIMENTAL STUDY

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**Objective:** To determine that duraplasty using amniotic membrane graft is better than fascial graft.

**Method:** A clinical experimental study has performed to evaluate human dural healing of 16 patients duraplasty in dr. Soetomo Hospital, Surabaya. The amniotic membrane allograft which has been fold in 16 layers was sutured to cover the dural defect for eight patients chosen randomly (group I). The fascial autograft from temporal muscle was sutured to cover the dural defect for eight patients who also chosen randomly (group II). Ten weeks postoperatively, the patients had undergone cranioplasty and the strenght of dural healing was evaluated by cerebrospinal fluid (CSF) leakage test through the edge of dural defect. The fibrocyte infiltration around the edge of dural defect was examined histologically. Statistical analysis using independent t-test was performed with confidence interval of 95%.

**Results:** There was no CSF leakage found in group I as well as group II. The histological examination showed the length of fibrocyte infiltration in group I was 8.12 mm (SD 2.01), in group II was 7.85 mm (SD 2.49),  $p = 0.819$ . The width of fibrocyte infiltration in group I was 4.12 mm (SD 1,6), while in group II was 3.57 mm (SD 1.76),  $p = 0.520$ . Statistical analysis revealed there were no significant differences of fibrocyte infiltration in both group.

**Conclusion:** Duraplasty using amniotic membrane graft has equal result in dural healing in comparison with fascial graft in regard of making watertight sealing and fibrocyte infiltration.

**Keyword:** duraplasty, amniotic membrane graft, fascial graft, human.