

Outcome of temporalis fascia myringoplasty with and without use of platelet rich plasma: A randomized control trial

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Abstract

Objectives: To compare the efficacy of temporalis fascia myringoplasty using platelet rich plasma (PRP) {MP-PRP} and conventional temporalis fascia myringoplasty (MP-C) in treatment of moderate to large central tympanic membrane (TM) perforation. **STUDY DESIGN:** Randomized-Control-Trial **SETTING:** Tertiary-Health-Centre **SUBJECTS AND METHODS:** We randomly assigned eighty patients with COM-mucosal-type with medium to large central TM perforation and conductive hearing loss planned for primary myringoplasty to receive either MP-PRP or MP-C. Myringoplasty was performed through post-auricular approach underlay graft using temporalis fascia. Primary outcome was graft uptake (an intact TM) at 6 months postoperatively. Secondary outcome was the post-operative hearing improvement measured by pure-tone-audiometry (PTA). **RESULTS:** Eighty myringoplasties (MP-PRP group-40, MP-C group-40) done for 80 patients (male=41; female=39, age-group=18-45-years) were included in analysis. At 6 months postoperatively graft uptake rate was 94.4% in MP-PRP and 92.1% in MP-C group. There was no statistically significant difference in graft uptake between the two groups ($p=0.358$). Success in terms of hearing gain ($[?]10\text{dB}$) was achieved in 34 patients (89.5%) in MP-C and 37 patients (94.9%) in MP-PRP group. At 6 months follow-up; mean-PTA-average improved from $35.10 \pm 5.401\text{dB}$ to $27.74 \pm 5.660\text{dB}$ and mean ABG improved from $24.00 \pm 5.204\text{dB}$ to $17.42 \pm 5.559\text{dB}$ in MP-C group. At 6 months follow-up; mean-PTA-average improved from $37.00 \pm 6.144\text{dB}$ to 26.65dB and mean air bone gap (ABG) improved from $25.98 \pm 5.736\text{dB}$ to $16.21 \pm 4.318\text{dB}$ in MP-PRP group. No statistically significant differences in improvement in PTA-values were observed between both groups. ($p=0.336$). Postoperative complications were similar in both groups. **Conclusion:** Graft uptake, hearing outcomes and complications of MP-PRP were similar to MP-C. MP-PRP offers no advantages over MP-C for treatment of TM perforation.

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