



Topical use of autologous platelet rich plasma in myringoplasty

By

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M.B.B.CH

Thesis

Submitted for partial fulfillment of
The requirements of the Master degree of
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Department of Otorhinolaryngology

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SUMMARY

Chronic suppurative otitis media (CSOM) is defined as a permanent perforation of the tympanic membrane with persistent discharge from the middle ear, lasting more than 6-12 weeks. Chronic suppuration can occur with or without cholesteatoma, and the clinical history of both conditions can be very similar. The treatment plan for cholesteatoma always includes tympanomastoid surgery with medical treatment as an adjunct, tympanic membrane perforation (TMP) is a common otologic problem leading to conductive hearing loss.

A persistent TMP increases the patient risk of developing recurrent acute otitis media or chronic middle ear disease, These conditions are frequently associated with an unpleasant otorrhea, The myringoplasty is a surgical procedure that closes a simple perforated tympanic membrane.

The aim of this procedure is to create an intact tympanic membrane, forming a dry ear and no further need to protect the ear from water after complete healing. However, the complications of myringoplasty include anterior blunting, tympanic membrane lateralization, stenosis of the external ear canal, delayed healing, epithelial pearls, and a risk of inclusion iatrogenic cholesteatoma -Historically, various grafting materials have been used to reconstruct the tympanic membrane (TM), including skin, fascia, vein, fat, perichondrium, dura mater, and cartilage. Presently, temporalis fascia is the most frequently used grafting material, and most series have reported approximately 90% graft take.

Platelet rich plasma (PRP) is an autologous platelet rich concentrate prepared from patients own blood with growth factors up to 8 times that of normal serum and its efficacy when used during myringoplasty is studied.

This study included 40 patients selected from the ENT out-patient clinic of Fayoum university hospital, presenting with tubo-tympanic CSOM and underwent type one underlay tympanoplasty between June 2017 & March 2018 were prospectively reviewed. Group A :eleven males & nine females ,age ranges from (25-35) years with a mean of (28.5±5.9) years., Group B: nine males & eleven females, ranges from (25-35) with a mean of (28.6±6.2) years.

-**Group A** patients will receive fat graft with PRP The fat graft is taken from ear lobule.

-**Group B** patients will receive fat graft without PRP.

Post -operative evaluation:

-Clinical follow-up for graft taking, perforation, retraction, lateralization or blunting, for one and three months post-operatively.

-Audiological follow-up by pure tone audiometry at one and three months post operatively.

Group A: In eighteen cases (90%) healed the tympanic membrane perforation , one case (5 %) 3 months post-operatively with residual tympanic membrane perforation and one case (5 %) non healed tympanic membrane perforation , during clinical follow-up for 6 months, no other complications such as lateralization or retraction were noted post-operatively, **Group B:** In eleven cases (55%) healed the tympanic

membrane perforation , three cases (15 %) 3months post-operatively with residual tympanic membrane perforation and six cases (30 %) non healed tympanic membrane perforation ,during clinical follow-up for 3 months, no other complications such as lateralization or retraction were noted post-operatively.

A statistically no significant difference was noted in PTA between the two groups before and after intervention.

We concluded that Platelet rich plasma is a cheap and cost effective platelet concentrate with enriched growth factors ,topical autologous PRP application during myringoplasty is safe and highly efficient and successful with no reported complication.