

RECONSTRUCTION OF SADDLE NOSE USING BIOGLASS ALLOIMPLANT

Mohamed Ali El-Saied MD

*ENT Department - Benha faculty of medicine,
Zagazig university, Egypt*

Abstract

Bioglass is an osteoconductive resorbable bioactive glass which has the most potent effect on bone cell function. The surface of the material is activated and covered with calcium phosphate layer similar to the mineral phase of bone without fibrous encapsulation. It provides a scaffold for new bone growth and holds dimensions until the host bone takes over. The aim of this study was to determine the efficacy of Bioglass as an implant in reconstruction of saddle nose. The study was conducted in Benha university hospital during the period from January 2001 to December 2003. During that period augmentation of nasal dorsum was performed for 20 patients presenting with saddle nose using bioglass particles. Follow up ranged from 6 months to 9 months. Every patient was evaluated by symmetrical nasal pyramid, recurrence of deformities and CT scan 2 weeks and 6 months postoperatively to compare the density of bioglass and adjacent bone by House Field Unit to confirm bone formation. In 8 patients the saddling was localized to the bony nasal dorsum while in 12 patients there was saddling of both bony and cartilaginous nasal dorsum. In the 18 patients who completed the prescheduled follow up, the nasal saddling was corrected and straight appearance of the nose was achieved in 16 cases while in 2 cases there were some disagreeable irregularities on the nasal dorsum which required rasping later on. The nasal saddling did not recur during the period of follow up, as there were no extrusion, infection and absorption to bioglass particles. The mean density of normal surrounding nasal bones was 1599.4 House Filed unit. The mean density of bioglass 2 weeks postoperatively was 1046.95 unit, while six months postoperatively the density of bioglass became 1528.9 unit. Bone formation occurred in all cases as the density of bioglass

became near to the bone density. The use of bioglass has the advantage of having little reaction in the host. Its replacement by bone retains most of the bulk and shape of the original implant. In addition its use in particle form mixed with blood gives favorable effects in restoring the nasal dorsum. In the present study, bioglass was shown to dramatically enhance the repair of a major dorsonasal bone defect. Despite several promising reports, long term viability of these implants has yet to be evaluated and the use of alloplast must be recommended only as an absolute last resort and not as a convenient substitute of autogenous grafts.