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# Application of titanium mesh in oral and maxillofacial surgery

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## Abstract

The maxillofacial region is the most prominent and expressive part of the human body. It is the harmony and symmetry of each segment that contributes towards the total beauty of the face. The maxillofacial deformities, which may be post-traumatic or due to untreated pathology, are also more common in India. The treatment of complex cases such as fractures of highly atrophic edentulous mandibles, discontinuity defects and comminuted fractures with the use of mini plates is often difficult and unsatisfactory. Hence in such cases Titanium mesh has been successfully used. Titanium mesh when compared to mini plates provides a three-dimensional stability. Hence it is more advantageous in treating discontinuity defects.

Production of Titanium mesh started in 1968, and its refinement occurred over time with better instrumentation. The malleable and semi-rigid nature of titanium mesh, coupled with lack of elastic memory, prevents subsequent stress shielding in the areas of use. The semi rigid nature of the mesh fixation allows micro movement at the healing bone ends, which may improve bone healing and it is further postulated that this may prevent the stress-shielding which occurs under rigid plates in mandibular continuity defects and where mandibular bone grafts are overlaid by rigid plates. Szivek and colleagues in their study on bone remodeling, have shown that increasing plate stiffness causes bone remodeling and resorption due to stress shielding. The applications of titanium mesh in the maxillofacial region include osteosynthesis in traumatology especially for comminuted fractures, craniofacial reconstruction, mandibular reconstruction, augmentation of atrophic maxilla and mandible and orthognathic surgery (stabilization of LeFort I and ramal osteotomies). It has been found that Titanium mesh of their own design particularly useful in reconstruction of jaw defects because it provided immediate stability and was able to support the highly osteogenic iliac medullary hone graft. Efficacy of Titanium mesh in various maxillofacial surgeries it throws light on the fact that these plates do offer a good amount of malleability, rigidity & biocompatibility. Hence it would be advantageous to use Titanium mesh in various maxillofacial surgeries thus restoring the form and function of the maxillofacial region to near normal without causing functional disability and morbidly of the patient.

## Biography

Ravi Rajan Areekal is working as a senior lecturer at Department of Oral and Maxillofacial Surgery in in Pushpagiri College of Dental Sciences, India.

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