

AAO Foundation Award Final Report

Principle Investigator	Dr. Peter Ngan
Co-Investigator	Hong He, Stephen Wei
Secondary Investigators	
Award Type	Biomedical Research
Project Title	A cephalometric and biometric comparison of titanium on-implants and tooth-borne appliances as anchorage for maxillary orthopedics.
Project Year	1995 Awards
Institution	West Virginia University
Summary/Abstract (250 word maximum)	A hexagonal onplant of 7.7mm diameter was placed on the palatal bone of the maxilla in an 11-year and 5-month female patient with a Class III malocclusion and mid-face deficiency. Elastic traction (400 g per side) was applied from a facemask to the onplant at 30° to the occlusal for 12 hours per day for 12 months. The maxilla was found to have displaced forward and downward by 2.9mm. The mandible was rotated downward and backward. There was a 3 degrees increase in mandibular plane angle and an increase in the lower face height. Clinically, there was a significant improvement in midface esthetics noted by an increase in fullness of the infraorbital region and correction of the skeletal discrepancy between the maxillary and mandibular jaw relationship. Contrary to the use of tooth-borne appliance as anchorage, there was no forward movement of the maxillary molars and minimal extrusion of the maxillary molars. These results suggest that onplants can be used as an extremely stable anchorage for maxillary orthopedic facemask treatment.
Were the original, specific aims of the proposal realized?	Yes, the onplant device was proven to be useful for maxillary orthopedic treatment of Class III patients.
Were the results published? If not, are there plans to publish? If not, why not?	Hong H, Ngan P, Hang GL, Liu G Q, Wei Shy. Use of onplant as stable anchorage for facemask treatment: A case report Angle Orthodontists. 75: 453-460, 2005.
Have the results of this proposal been presented? If so, when and where? If not, are there plans to do so? If not, why not?	“Clinical management and follow-up of Class III patients treated with facemask”. American Assoc. of Orthodontists annual meeting, May 9th, 2006.