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# A split mouth evaluation of active tactile sensibility in single dental implant opposing natural tooth in anterior and posterior region – An In-vivo study

Running title – Active tactile sensibility in implant supported prosthesis opposing natural tooth

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#### ABSTRACT

**Introduction:** Functional and biological integration with stomatognathic system is a prerequisite for Successful Implant prosthesis. The oral perception sensibility of dental implants can be tested either by having the test persons bite on thin test bodies (active tactile sensibility) or by passively applying pressure on the occlusal surface of the implant (passive tactile sensibility).

**Aim:** The aim of this study was to compare the Active Tactile Sensibility (ATS) of implant supported prosthesis of single missing tooth in anterior and posterior region having opposing natural tooth with delayed loading protocol with natural dentition on contralateral side.

**Materials & Methods:** Randomly selected 32 patients (20-40 years of age) were divided into two groups according to the site of missing tooth and both the groups had 16 participants. Randomization of the patients was done by allocating them through a sequence of computer-generated random numbers. Implant placement was done in mandibular posterior region in one group and in the other group maxillary anterior region was selected as an interventional site and loading was done after 3 months. ATS was checked by using (Bausch Arti foil) interocclusal articulating foils (thickness 8µ,

 $12\mu$ ) and articulating paper ( $24\mu$ ,  $40\mu$  and  $100\mu$ ) with edge to edge placement in Group A and in maximum intercuspation in Group B after 3, 6 and 9 months of implant placement.

**Statistical analysis used:** Intergroup and intragroup comparisons were done one sample t-test, and ANOVA statistical analysis, followed by POST-HOC turkey test.

**Results:** Active tactile sensibility levels in experimental Group A at 3 months, 6 months and 9 months showed increased values as follow-up time increased. Level of significance between various articulating foil dimensions was observed to be highly significant at all-time interval follow-ups.

**Conclusion:** The study highlighted the fact that active tactile sensibility of implant supported restorations increased with time. Threshold of detecting the minimum thickness of artifoils was also decreased with implant supported restorations as follow-up time increased.

Keywords: Osseoperception, dental implants, active tactile sensibility.

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