



**“EVALUATION OF NEUROSENSORY DEFICITS AFTER SURGICAL  
MANAGEMENT OF MANDIBULAR CYSTS AND TUMOURS.”-  
A PROSPECTIVE STUDY**

By

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## **ABSTRACT**

**Introduction:**Maxillofacial neurosensory deficits may be caused by various factors like trauma, pathologies causing compression of nerves or may be postsurgical. These can cause minimal to severe disability affecting patients daily activities and quality of life. A disparity exists among the testing methods recommended to evaluate these deficits in orofacial region. Controversies over the superiority of the subjective and objective testing have resulted in an evolution of plethora of testing devices and methods

**Aim and Objectives:** Prospective study to evaluate the incidence, type of neurosensory deficiency ,grade its severity and monitor its recovery occurring in the lower lip ,chin due to damage to inferior alveolar nerve and mental nerve pre-operatively and following surgical procedure with respect to benign cysts and tumours of mandible.

**Materials and Methods:**The prospective study was carried out at SDM craniofacial unit, Dharwad, from NOVEMBER 2015 to MAY 2017, which included 20 patients who have undergone surgical procedure for management of benign cysts and tumours of mandible. All patients examined pre-operatively and post-operatively 3days, 1month ,3months, 6months, 9months respectively, according to standardized tests to clarify the subjective and objective neurosensory status of the injured nerve. Evaluation consists of subjective assessment which included patients perception of sensory or functional neural alterations using questionnaire and objective assessment performed using two point discrimination,

static light touch, brush directional stroke, pinprick, thermal discrimination, localization, sharp/blunt test, depending on grading and visual analogue scale, it was rated.

**Results:** The incidence of NSD with benign cyst and tumours of mandible was 97% at 3<sup>rd</sup> day post-operatively and 58.8% at 6 months post-operatively. 60% of patients showed hypoesthesia and 40% showed anaesthesia. Persistent grading with two point discrimination and pin prick test showed to be grade I to II in post-operative period on day 3 and 1 month, which gradually improved to grade IV to V post-operatively on the 6<sup>th</sup> and 9<sup>th</sup> month. With respect to light touch test, grading on 3<sup>rd</sup> day post-operatively and 3<sup>rd</sup> month post-operatively showed grade I, which gradually improved to grade II post-operatively during the 6<sup>th</sup> and 9<sup>th</sup> month. Similarly thermal, brush stroke, sharp /blunt, and localization test improved respectively post-operatively at 6<sup>th</sup> month.

**Conclusion:** There is high incidence of NSD of lower lip and chin after enucleation and chemical cauterization or other surgical procedures for management of benign cysts and tumours of mandible. High incidence of neural deficits were noted in the immediate post-operative period. However improvement with recovery of sensation can be seen during follow-up period, by the end of six to nine months. The clinical neurosensory tests are effective guides to study neurosensory deficit.

**Keywords:** Neurosensory deficits, Benign cysts, Tumours