

## **ABSTRACT**

**Title of the abstract :** “Effects Of Radiotherapy On Olfaction And Nasal Function In Head And Neck Cancer Patients”

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**Degree and subject :** MS ENT

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### **OBJECTIVES :**

To compare olfaction, mucociliary clearance time and quality of life in head and neck cancer patients before initiation of radiotherapy (RT), mid RT, end of RT and 3 months after radiotherapy

### **METHODS**

This is an observational prospective cohort study conducted over a period of 1 year in the ENT department. In patients with primary head and neck cancers planned for radiation therapy as part of treatment, olfactory function using Connecticut chemosensory clinical research centre test, mucociliary clearance using saccharin test and quality of life using Appetite, Hunger and Sensory Perception (AHSP) Questionnaire were serially done at four time points (before radiotherapy, mid RT,

end of RT and 3 months after RT). Assessment was done using non invasive tests for better compliance and ease of examination.

## **RESULTS**

21 patients were recruited in the study, 18 patients completed radiotherapy and 13 patients were assessed 3 months post radiotherapy. Mean olfactory scores (including olfactory threshold and odour identification) deteriorated significantly over the course of radiotherapy (  $p < 0.001$  ). However, subjective assessment of olfaction by the AHSP questionnaire did not demonstrate significant impairment in nasal function ( $p < 0.319$ ) although overall quality of life significantly deteriorated (  $p = 0.004$  ). The mucociliary clearance was significantly prolonged in 70 % of the patients at the end of radiotherapy.

## **CONCLUSION**

Radiotherapy causes reduction in olfaction which shows a positive trend towards recovery at 3 month follow up. However, mucociliary clearance time prolongation persists at 3 months.