

## **OBJECTIVES OF THE PROJECT:**

Oral cancer tends to spread quickly and hence the majority of oral cancers are diagnosed in very late stages which also accounts for the increased death rates. However, if the cancer is detected much early, there is an increased chance for survival and early detection depends on a thorough clinical examination. As far as the diagnosis of oral cancer is concerned, saliva might serve as a diagnostic tool since it contains a plethora of micro organisms which may play a role in health and disease.

Patients suffering from oral cancer and precancer may have altered levels of salivary pH and bacteria. A preliminary attempt has been made using saliva to detect the changes in pH and study the alterations in the counts of salivary bacteria.

## **LIKELY BENEFITS OF THE PROJECT:**

- 1) To evaluate and identify the predominant bacteria in saliva of oral cancer and oral precancer patients and determine their possible association in oral carcinogenesis.
- 2) To determine whether the changes in salivary pH and bacteria can be considered as a diagnostic indicator of oral cancer so that it can be diagnosed and treated in early stages, thereby reducing the morbidity and mortality.

## **METHODOLOGY:**

### **1) Inclusion criteria:**

- a. A total number of 50 patients are included in the study
- b. Clinically and histopathologically diagnosed cases of oral cancer and precancer with tobacco chewing/smoking habit.
- c. Healthy age and sex method controls with tobacco chewing/smoking habit.

### **2) Exclusion criteria:**

- a. Patient's suffering from diabetes mellitus, those who give history of radiotherapy for oral cancer and those who report recent antibiotic intake are excluded.

### **3) Study pattern:**

- a. Ethical committee approval and informed consent of the patient will be got.
- b. Proforma containing the personal information of the individual, their dietary habits, harmful habits related to oral cancer for eg. tobacco chewing/smoking thorough clinical examination findings and clinical staging of the cancer will be done.
- c. Incision biopsy of the lesion will be done in the oral cancer and precancer patients to confirm the clinical diagnosis histopathologically.
- d. Unstimulated whole saliva sample will be collected in sterile disposable containers and special anaerobic culture media from the clinically and histopathologically diagnosed cases of

oral cancer and precancer; and also from the age and sex method controls i.e. from the healthy individuals with tobacco chewing/smoking habit,.

- e. The sample is assessed for any alteration in the pH using pH strips and pH meter,
- f. Both aerobic and anaerobic culturing will be done using suitable culture media and the micro organisms will be identified by standard methods.

**BUDGET:**

**I. Non-Recurring expenditure:**

1. pH meter	—	Rs.4,000/-
2. Printed proforma	—	Rs.1,000/-

**II. Recurring / consumables:**

1. Hi-anaerobic gas packets (10 packets)	—	Rs.10,000/-
2. Culture media	—	Rs. 5,000/-
3. pH strips and other biochemical agents	—	Rs. 5,000/-
4. Sterile disposable saliva containers	—	Rs. 1,500/-
5. Stationaries	—	Rs. 2,500/-
6. Transport	—	Rs. 1,000/-

Total	—	Rs.30,000/-
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**TOTAL BUDGET:**

1) Non-recurring expenditure	-	Rs. 5,000/-
2) Recurring expenditure	-	Rs.25,000/-

**DURATION OF THE PROJECT** : 1 Year