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TCD teams up with Tata Memorial Centre to beat oral cancer

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This collaboration will augment the efforts to validate a saliva-based diagnostic test that could be used in high-risk patients to detect cancer at an early stage



Taking a decisive step towards validating a non-invasive diagnostic test that is capable of identifying oral cancer at an early stage, the Tata Centre for Development (TCD) at UChicago in the US announces its collaboration with the India based Tata Memorial Centre (TMC), one of the oldest and largest cancer centres in the world.

UChicago Medicine and Strand Life Sciences, in collaboration with the TCD, have developed a saliva-based test that could be used in patients to detect tumour DNA from mouth cancers. The core objective of this research project is to detect presence of mutations in a non-invasive method from the tumour in patients with oral cancer.

Currently, observational clinical trial is going on throughout India to develop the test. This collaboration with the TMC will augment the efforts towards collecting tumour tissue and matched saliva from patients with oral cancer.

Nishant Agrawal, Professor of Surgery, Director of Head and Neck Surgical Oncology, UChicago Medicine said, “With recent advances in sequencing technology, we have been able to demonstrate that tumour DNA can be detected in saliva of patients. It is an easily accessible, non-invasive liquid biopsy method. Our collaboration with the Tata Memorial Centre will help us in developing the assay and conducting the trial.”

Dr. Rajendra Badwe, Director, Tata Memorial Centre said, “This test uses the potential of saliva—which contains cells, DNA, RNA and proteins—to detect the presence of and measure the rate of prevalence of mutations in the tumour. The research holds promise for both the patients and the doctors because it gives them an opportunity to address pre-cancerous lesions and early detection of invasive cancer and treat it with simple interventions. We are happy to contribute to this important piece of work.”

Oral cancer ranks among the top three types of cancer in India. It is also the leading cancer among men and the fifth most frequently occurring cancer in women. India, reportedly, contributes nearly 60 per cent to the oral cancer burden worldwide, and the number of cases is expected to double by 2030. Unfortunately, 60-80 per cent of oral cancers are diagnosed at

advanced stages when survival is well below 50 per cent.

Evidence suggests that if oral cancer is diagnosed early and treated as localised tumors, the five-year survival rate would significantly improve. The five-year survival rate for stage III or IV cancer is between 20 and 40 per cent as opposed to 70-90 per cent for stage I or II cancer.

In addition to improved survival, treatment of early stage cancer is also associated with improved quality of life and decreased medical costs. Salivary DNA diagnostics, and eventually screening, will decrease morbidity and mortality from oral cancer in India, while minimising the disparity in outcomes due to access or socio-economic barriers.