THE RELEVANCE OF CDx BRUSH BIOPSY IN DIAGNOSING EARLY ORAL CANCER IN DEVELOPING COUNTRIES

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Abstract

Squamous cell Carcinoma of oral mucosa is the most common type of cancer in males and third most common type in females in the Indian sub continent. Oral Squamous cell Carcinoma (OSCC) is preventable and the risk factors are well known. There are several techniques for early detection of oral cancer. CDX brush is designed to make abrasions in the oral mucous membrane so that the dysplastic or malignant cells which are mostly present in the basal layer of epithelium will be caught up in the sample for cytologic analysis.

Introduction:-

Squamous cell Carcinoma of oral mucosa is the most common type of cancer in males and third most common type in females in the Indian sub continent[1]. Oral Squamous cell Carcinoma (OSCC) is a preventable cancer and the risk factors are well known. If detected early and treated promptly, using the state of art techniques, it is also a curable cancer. OSCC has got a long natural history. In majority of cases, it arises from the pre existing pre cancerous lesions or conditions. Therefore the most acceptable policy in the control of oral cancer should be based on primary prevention, early detection and prompt treatment [2].

There are several techniques for early detection of oral cancer. The commonly employed techniques are: 1. Scalpel biopsy 2. Punch biopsy 3. FNAC 4. Exfoliative cytology 5. Chemiluminiscent techniques 6.Brush biopsy 7. Saliva based tests 8. Blood based tests[3].

Among these, the scalpel biopsy is considered as the gold standard .No cancer hospital will treat a patient without histopathological reconfirmation of the positive results obtained from other tests.

In India, for the last 3 years, there is an intensive drive to popularize the use of CDX brush biopsy as a tool for the detection of oral cancer. CDX brush is designed to make abrasions in the oral mucous membrane so that the dysplastic or malignant cells which are mostly present in the basal layer of epithelium will be caught up in the sample for cytologic analysis. The manufacturer claims that the technique is atraumatic and painless. However, our experience have shown that when CDX brush is used as indicated by the manufacturer in patients with atrophic lesions, it will result in pain much more severe than the pain felt during a scalpel biopsy. The exfoliated cells have to be collected, centrifuged and dispensed to one of the few centres for its reading and evaluation. The results may be available only after 5 or more days. Therefore, it takes more time to get a result when compared with the speed at which biopsy and / FNAC results are obtained (2-3 days). The total cost for CDX brush kit and for reading the slide will be Rs.1500-2500 which is 8-12 times more than the cost of histopathological investigation. Even the manufacturer of CDX brush insists that all positive cases should be reconfirmed with histopathology before the patient is given radical treatment for cancer. This means that the unfortunate positive patients will have to pay twice for confirmatory investigation and there will be a valuable time lapse of 10-12 days.

It is needless to say that, when a simple, totally confirmatory, cheap and time trusted test is available, there is no need to go in for a new, sophisticated test like CDX which has high sensitivity, low specificity and low positive predictive value as shown in available clinical

studies. It is now unequivocally shown that oral cancer can be downgraded by an oral visual inspection, a histopathological diagnosis in suspected patients and appropriate treatment of the detected lesions without time lapse. This procedure has resulted in reduction in mortality and morbidity of oral cancer 4.

All dental surgeons and medical practitioners should be trained to take a scalpel biopsy from the mouth during their undergraduate course. The confirmatory procedure in community/hospital based screening programmes for oral cancer should be scalpel biopsy even in the cancer detection programmes held in remotest villages. In the National Cancer Control activities, early detection of oral cancer is given a high thrust 5. Oral cancer is a poor man's disease and the methods of diagnosis should be cheap and accurate. So it is necessary to clearly spell out the steps and modus operandi of early detection of oral cancer by the health care delivery teams. This statement is deliberately made here because some of the professional organizations and even the Dental Council of India were advocating strongly for CDX brush during the National Conference of IDA held at Mangalore in 2008. No result is published yet from patients from the Indian sub continent proving the hypothesis that CDX brush biopsy is a reliable and useful technique for diagnosis of oral cancer. Considering all these factors, we have no doubt in our minds to say that the oral CDX brush biopsy is irrelevant for oral cancer detection in developing countries. It is not a boon, but a bane as a test for detection of oral cancer.

Reference:-

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