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Oral lesions are predominantly confined to the male due to their habit of chewing tobacco and cigarette smoking. Early detection of the malignant lesion continues to be the best weapon against cancer morbidity and mortality, controversy exist in differentiating microscopically the benign cellular aberration from their malignant counter parts.

With the emergence of immunological aspect of neoplasia, attention was drawn towards the ABO iso-antigen expressibility of neoplastic cells. Using specific red cell agglutination reaction (SRCA). The antigenic behaviour of the neoplastic cell in neoplasia of various tissues and organs has been studied by a large number of workers and deficient expression has been found in most of the cases as compared to the normal and neoplastic cells (Davidsohn et al, 1969; Dabelsteen, 1973; Denk, 1976; Schoentag, 1976; Strauchan et al, 1980.

The blood group iso-antigens can be detected by immunofluorescent antibody technique as well as by SRCA reaction. SRCA reaction has been found to be reproducible, more sensitive and technically easier than the immunofluorescent technique (Davidsohn and Ni, 1969).
The sensitivity and specificity of specific red cell adherence test can detect subtle immunological changes of cancerous transformation before histological dedifferentiation is apparent (Sharma et al, 1980).

SHCA has been applied for study of isoantigens ABO (H) in different tissues e.g. oral malignancies (Debel-steen and Findborg, 1973), Lung malignancies (Davidsohn & Ni, 1969), Breast malignancies (Torti, 1963 and Strauchen et al, 1980), Prostate malignancies (Gupta et al, 1972), Uterine cervix malignancies (Davidsohn et al, 1969).

Loss of ABO (H) surface iso-antigens in oral cancer occur early in its course, perhaps at a time when it appears histologically benign.

Literature testifies to the paucity of such work including determination of isoantigens in different oral lesions from this part of the state. The present study was undertaken to investigate the relationship between the histological diagnosis and the presence or absence of isoantigens in these lesions in order to find out if it may help to determine the likelihood of development of early carcinoma in oral cavity.

The present study is based on the observations recorded in 30 cases of oral lesions. Out of these 7 cases
were of inflammatory lesions, 9 cases were of benign lesions, 4 cases were of premalignant and 10 cases were of malignant tumours.

Seven cases of inflammatory lesions served as control group for study. Present study was chiefly directed towards the demonstration of isoantigens in benign and malignant lesions of oral cavity by using SRCA technique. All the observation were recorded in the form of tables as shown in the previous chapter on observations.

Inflammatory lesions were common in the age groups of 20-29 years. According to some worker (Kerr et al 1951) reported that the age group incidences were not significant, cases have been both very young infants and elderly persons with no apparent predilection for one age group.

Benign lesions were equally distributed common in age group of 10-19 years and 40-49 years. Other worker (Shafer et al, 1967) have reported that different benign lesions occurred in age range of 10-50 years. This finding correlates well with our findings.

Premalignant lesions were equally distributed in the age range of 30-39 years, 40-49 years, 50-59 years and 70-79 years. Our finding are in accordance with finding of Harry et al (1972) who have reported the age range for dysplasia i.e. 27-87 years.
Malignant lesions were common in the age group of 70-79 years. Other worker (Cook et al, 1951) reported age range for malignancy in oral cavity was 31 to 57 years. This finding correlates well with our finding.

SRCA finding in different lesions of oral cavity are as follows :-

1- In inflammatory lesions (Fig. )

All the cases of inflammatory lesions showed strongly (++) to moderately (+++) positive. SRCA reaction indicating no loss of antigens. Many other workers (Kovarik et al, 1968) have reported normal antigenic status in all the cases of inflammatory lesions. This finding correlate well with our finding.

2- In benign lesions of oral cavity (Fig. )

Out of 9 cases of benign lesions 6 cases of different benign lesions showed strongly positive (+++) SRCA reaction and 3 cases showed moderately positive (+++) SRCA reaction. Thus suggesting no loss of isoantigens in benign lesions (Deyasi et al, 1973).

The stroma in all 9 cases was found to be negative except for an occasional streak like positivity of agglutinated RECs in the lumen of vessel (mostly capillaries) which showed an internal controls in all the subjects of this group.
3- **SRCA in premalignant lesions** (Fig )

Variable in reactivity in premalignant lesions, SRCA reaction was strongly positive (++++) as well as moderately positive (++) and also weakly positive (+). This showed that there is gradual loss of isoantigens due to epithelial dysplastic changes as advocated by (Dabelsteen et al, 1971).

Fjndborg et al (1968) have reported malignant transformation in leucoplakia. All cases of leucoplasia does not transform into malignancy those lesions that showed loss of antigens in epithelial surface indicates to transform into malignancy (Dabelsteen et al, 1971).

4- **SRCA in malignant lesions of oral cavity** (Fig )

SRCA reactivity in malignant lesions was mixed type; it was completely negative in fair number of cases as well as equivocal and weakly positive in few cases. One case showed moderately positive (++) SRCA reaction. These finding are accordance with finding of other worker (Prendergast et al, 1967) who had reported that neoplastic cells showed a mixed reaction; some cells were positive and some were negative. Also reactivity in neoplastic cells was diminished.
Davidsohn et al (1970) studied that SRCA reaction was negative in primary as well as metastatic carcinoma. In stroma separating the groups of tumour cells and in fields away from the tumour, the same section showed negative SRCA, except for the positive agglutination reaction in vessels (mostly capillaries) serving as internal controls.

All the findings suggest that malignant development involves the important changes of the cell surface. These changes may include the appearance of new antigen or the loss of normally present antigens, or masking of the antigen is interpreted as functional or morphological dedifferentiation in the course of cancerous transformation (Gupta et al, 1973). The decrease or loss may be the result of:

(a) Decrease ability of epithelial cells to produce them if produced elsewhere.
(b) Possibly changes in the cell membranes
(c) A change in their demonstrability of SRCA test
(d) Others as yet unknown factors or
(e) A combination of these

It has been suggested that the loss of antigen is parallel to the degree of anaplasia and is, as a rule, a pre-requisite for the formation of distant metastasis.
The result of present study showing negative SRCA in subjects with malignant lesions of oral cavity seems to be identical with the finding of other workers (Prendergast et al 1967; Davidsohn et al 1970). It is known that the SRCA in benign lesions and normal tissues is positive. The present study of SRCA in benign lesions seems to be in full agreement with this view. Our results are consistent with the observation that the serologic reactivity of A, B and O (H) group substances show a sudden decrease in malignant lesions of oral cavity and their metastasis while in benign lesions and in normal tissues the reactivity is retained, indicating the presence of isoantigens. Therefore a close relationship between the loss of cellular A, B and H isoantigen in malignancy appears very likely.

Two main points emerge from this study the first is that tissue isoantigens are regularly lost in primary and metastatic carcinoma. The second is that isoantigens are always present or expressed in benign lesions including tumours of oral cavity. These findings therefore suggest that such antigenic loss may be a general feature of malignant oral lesions.
In the last present study strongly suggest more work in the field of SRCA in benign, premalignant and malignant lesions of oral cavity involving immunofluorescence (IF) and immunoperoxidase (IP) for exact elucidation and immunological diagnosis and assessment of prognosis.

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