



RESEARCH ARTICLE

EXPRESSION OF Ki-67 IN POTENTIALLY MALIGNANT DISEASE.

Dr. Mohd Naser and Dr. Maria Zaffar.

Manuscript Info

Abstract

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Introduction:-

Monoclonal antibody was first isolated during attempts to raise monoclonal antibodies to antigens specific for Hodgkin disease and Reed-Sternberg cells.

Most common OPMDs includes:-

1. Leukoplakia
2. Erythroplakia
3. Oral Lichen Planus
4. Oral submucous fibrosis

Main clinical variants of leukoplakia:-

1. Homogeneous leukoplakia (with low risk of MT)
2. Non Homogenous leukoplakia (with high risk of MT)

Aims & Objectives:-

1. To evaluate & analyse expression of Ki-67 in potentially malignant disorders
2. To derive correlation among expression of Ki-67 in various lesions, if any.

Materials & Methods:-

1. A total of 15 histopathologically diagnosed cases were included in the study.
2. Leukoplakia - 9
3. Oral Lichen planus -3
4. Oral Submucous fibrosis -3.
5. All the cases were taken from archival paraffin embedded blocks from Department.of Oral Pathology & Microbiology.
6. Ki-67 immunostaining was detected & analysed.

Materials For IHC Staining:-

Primary Antibody for Ki-67 & Detection kit were purchased from Biogenex. The KIT comprised of

1. Primary antibody(ki-67)

2. Secondary antibody(detection kit)
3. Peroxide block
4. Power block
5. Super enhancer
6. DAB Chromogen

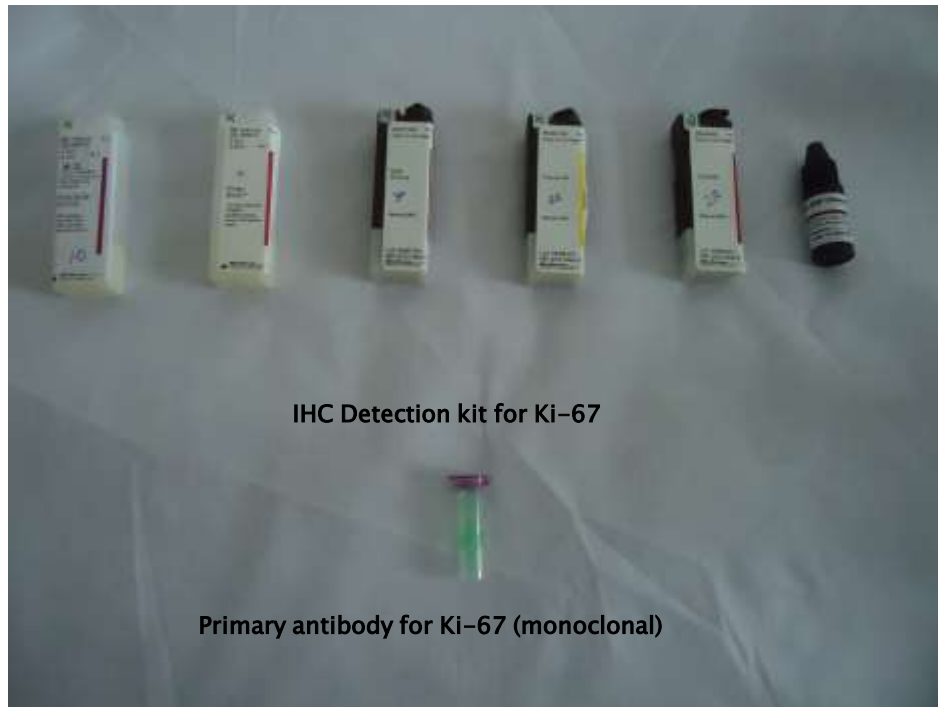


Fig 1:-Material Used For Ihc Staining

Results and Discussion:-

Immunostained slides were observed by three oral pathologists and analysed. Positive staining was seen in all the potentially malignant cases. Staining was strongly positive in basal layer of all the cases.

In Mild Dysplasia, immunoexpression of Ki-67 was seen in basal layer only.

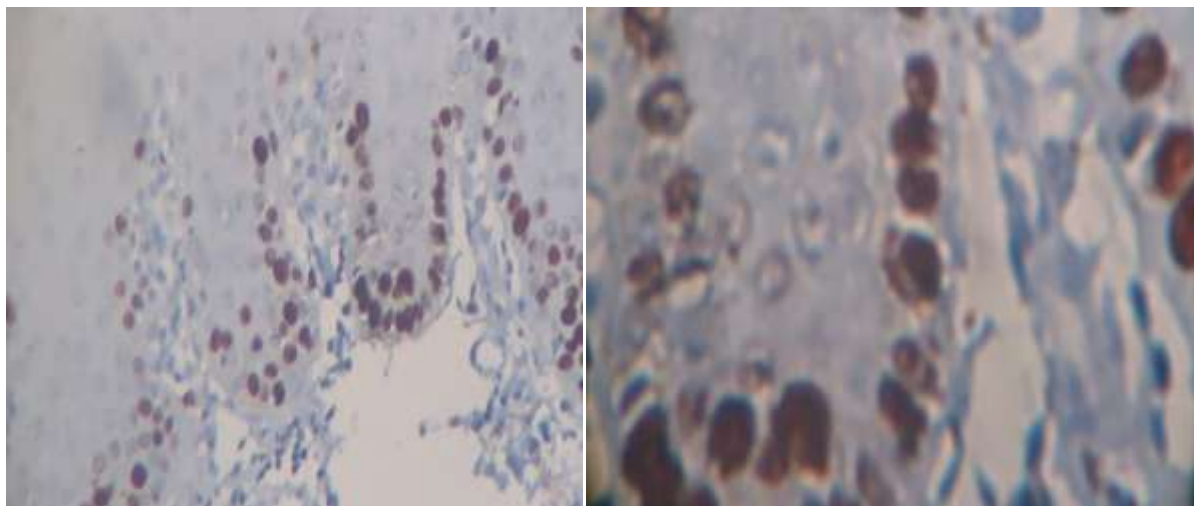


Fig 2:- Mild Dysplasia

This finding is in accordance with the study conducted by Smita et al at Bhimavaram. In Moderate Dysplasia also, immunoexpression was seen strongly positive in basal layer itself.

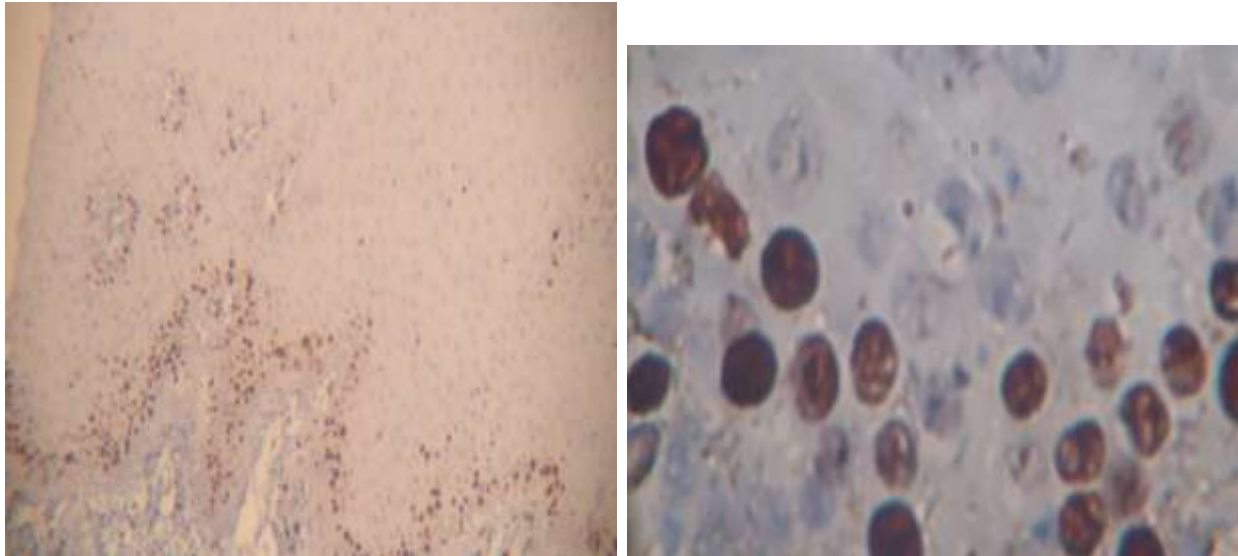


Fig 3:-Moderate Dysplasia

Expression of Ki-67 was seen in basal as well as suprabasal layers. This shows that ki-67 gets expressed in all the proliferating cells undergoing malignant change in higher grade of dysplasia.

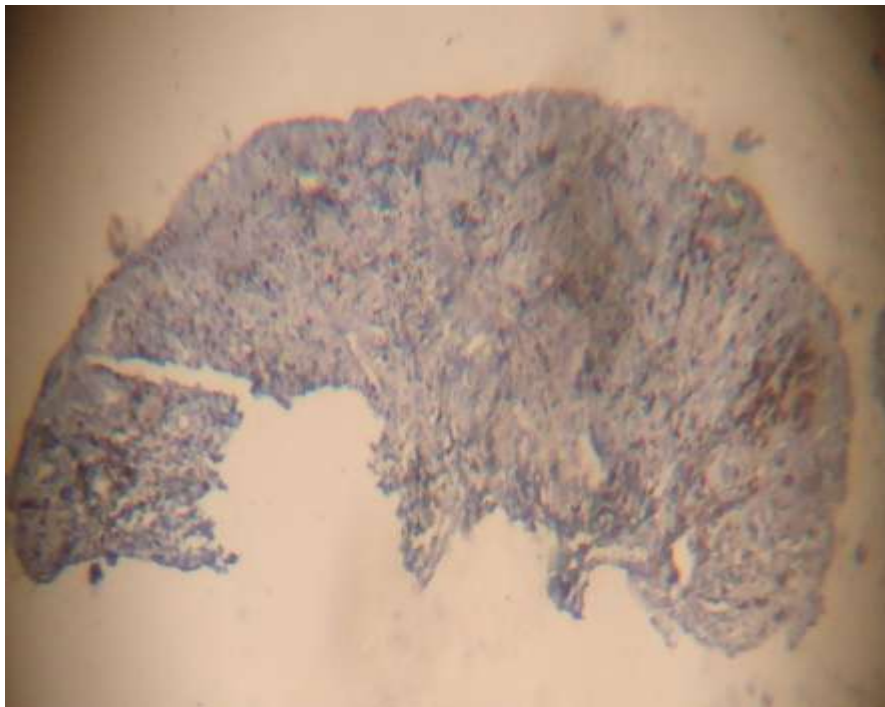


Fig 4:-Severe Dysplasia

In Oral submucous fibrosis ki 67 was found positive in all the layers of epithelium and also weakly positive in connective tissue stroma. Immunopositive cells of epithelium states that they are highly dysplastic.

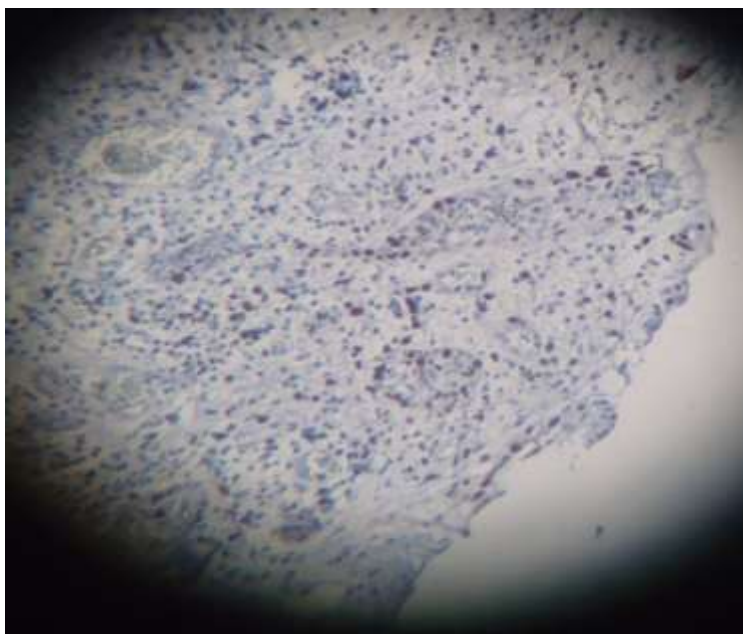


Fig 5:- Oral Submucous Fibrosis

In Lichen planus, immunopositivity was seen in basal layer and subepithelial zone. Keratinocytes in basal layer and inflammatory cells in subepithelial layer has shown ki -67 expression.

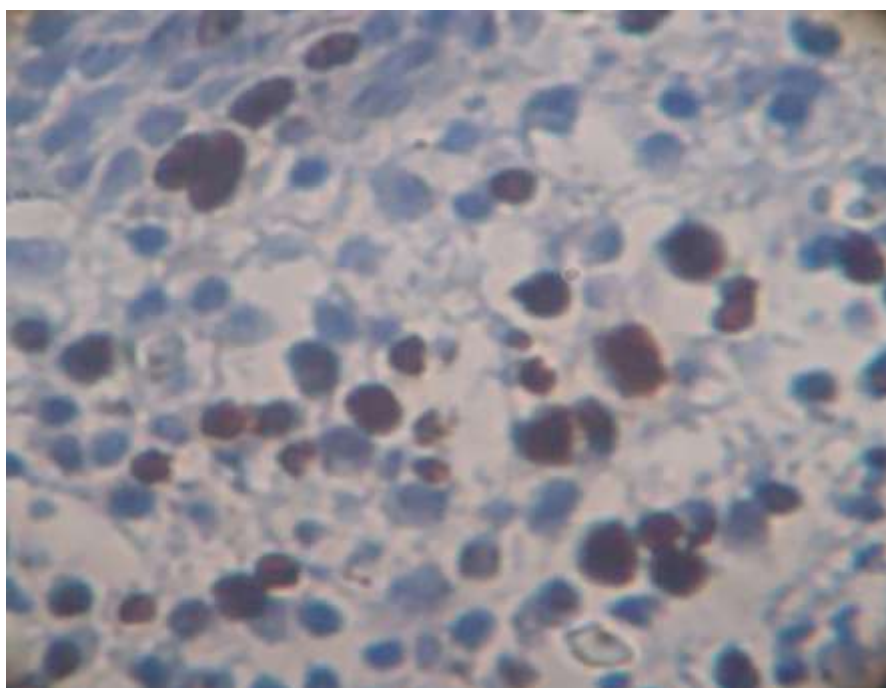


Fig 6:-Lichen Planus

Analysis:-

Cases	Basal layer	Suprabasal layer	Connective tissue
MILD	+	-	-
MODERATE	+	-	-
SEVERE	++	++	-
OSMF	++	++	++

Lichen PLANUS	+	-	+
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Conclusion:-

Ki -67 was found strongly positive in basal layers of cases of mild and moderate dysplasia. In Severe dysplasia it was found strongly positive in all the layers of epithelium. This shows all the dysplastic cells are in proliferative phase. In **Oral submucous fibrosis**, ki-67 expression was found strongly positive in basal & suprabasal layers of epithelium and weakly positive in connective tissue.

In **lichen planus**, ki 67 was positive in basal layer and subepithelial zone. Ki 67 can detect dysplastic cells in G1, S, G2, M phases of cell division. We deduce from this study that Ki 67 can be used a prognostic marker for malignant transformation.

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