COMPARISON OF IMMUNOHISTOCHEMICAL EXPRESSION OF MDM2 PROTEIN IN ORAL SQUAMOUS CELL CARCINOMA AND VERRUCOUS CARCINOMA

by

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1. INTRODUCTION

Cancer is a common disease which affects one in three people at some point in their lifetime. Despite the abundance of attention that cancer has attracted, it continues to constitute one of the deadliest scourges of the modern era.

Impressive advances have been made in understanding the molecular mechanisms implicated in development and progression of different types of human cancers. The characterization of these genetic events and elucidation of their functions has led to the identification of novel molecular markers for testing in terms of predisposition, early diagnosis, prognosis and improved therapeutics.

MDM2, which is coded by mdm2 gene was first cloned as a gene amplified on double minute particles in transformed murine cell line (**m**urine **d**ouble **m**inute gene **2**). Its human homologue is an oncoprotein that is deregulated in human tumours. Five to ten percent of human tumours overexpress MDM2 due to gene amplification or due to increased transcription and translation **(Gitali Ganguli et al, 2000)**[1].

There are various techniques to identify and assess these important molecular entities. Immunohistochemistry is one such simple technique as it can be readily used to stain routine formalin fixed tissues. In squamous cell carcinoma the frequency of mdm2 gene amplification is low because MDM2 overexpression in these tumours occur due to enhanced translation. This enhanced translation consists of 5'-UTR transcripts **(Sandya A et al, 1999)**[2]. Enhanced translation of MDM2 transcripts is seen in variety of other tumours **(Reifenberger G et al, 1993)**[3]. Hence apart from the simplicity that immunohistochemistry imparts, it would be the most practical and