*Dihydropyrimidine dehydrogenase deficiency and the treatment of tongue squamous cell carcinoma*

***Abstract*** *130 words*

**Squamous Cell Carcinomas of Tongue definition**

Squamous cell carcinoma (SCC) of the tongue belongs to a large family of head and neck cancers(HNC). It is the most common cancer within the oral cavity. Rich in EGFR

Squamous cell carcinoma (SCC) represents more than 90% of all head and neck cancers. It typically occurs in the elderly men during the fifth-eighth decade of life[1]and rarely occurs in the young patients under the age of 40. Although several studies have indicated that this trend is rapidly changing due to increased tobacco consumptiomn across younger.

The recent literature has given increasing attention to SCC of tongue in young adults as authors have speculated that the incidence of SCC of tongue is increasing.[2],[3] Most of the existing literature on the subject emphasizes the difference between younger and older cancer patients. Our understanding regarding the etiology, natural history and optimal therapeutic management is limited due to rarity of this tumour. In this article, we report a case of SCC of tongue in a 19-year-old female. It emphasises on the fact that oral squamous cell carcinoma can occur even at a young age and must be considered in the differential diagnosis of suspicious lesions even in the young.

**Causes and prevalance**

Environmental, genetic and epigenetic changes are the leading cause in the formation of SCC of the tongue. (Ali et al., 2017)

Tobacco and alcohol use remains the main cause for the high incidence of the tongue SCC among environmental factors. These lifestyle choices attribute to genetic variations in tumour suppressor genes (APC, p53), proto-oncogenes (Myc), oncogene (Ras) and genes controlling normal cellular processes (EIF3E, GSTM1). It has been estimated that more than 70% of the tongue SCC’s could be prevented by altering the life-style choices.

There is clear evidence that two of the significant risk factors are toxins found in tobacco smoke and alcohol, further named risk factors to include viruses such as EBV and HPV, advanced age (Pai and Westra, 2009). The less common proportion of risk factors are unsatisfactory oral health and dental status. More than 70% of squamous cell carcinoma of the head and neck are estimated to be avoidable by lifestyle changes (Dhull et al., 2018) Recent research suggests that male to female occurrence ratio is steadily changing to favourite more females subject to HNC (Satgunaseelan et al., 2020. The reason behind this being increased use of tobacco products within females.

**Clinical Presentation and appearance**

Clinically the SCC of the tongue presents as a lesion variable size and can range from a few millimetres to several centimetres in the more advanced cases. The initial lesions are usually asymptomatic as they are small.

**SCC of tongue Tumour Staging and grading**

**Various Treatment regiments for treatment of SCC of tongue**

**Fluorouracil treatment regiment**

Cisplatin and Fluorouracil treatment is the first line treatment for the reccurent and metastatic cases among the squamous cell cancers.

How admistered-

Treatment length-

Possible side effects-

One of the major life threatening effect is a DDD Dihydropyrimidine dehydrogenase (DPD) deficiency is a pharmacogenetic syndrome associated with potentially lifethreatening toxicity following the administration of standard doses of 5-fluorouracil (Ezzeldin and Diasio, 2004)

**Dihydropyrimidine dehydrogenase deficiency**

it has become increasingly clear that genetics is a major determinant of the variability in drug response, accounting for the probability of drug efficacy and the likelihood of toxic drug reactions

It is an enzyme made by the liver that helps our body break down thymine and uracil. Thymine and uracil make up part of the structure of our genes. Genes are coded messages that tell cells how to behave. Uracil is also an important part of the drugs 5FU and capecitabine.

DPD deficiency happens when we have low or no levels of the DPD enzyme. The cause of this is usually changes (mutations) in the DPYD gene.

It is very rare to have no DPD in the body (a complete DPD deficiency) but it is more common to have low or very low levels (a partial deficiency). Between 2 and 8 out of every 100 people (2 to 8%) have a partial DPD deficiency.

A partial DPD deficiency doesn’t usually cause symptoms. This means that you don’t usually know that you have the deficiency unless you have 5FU or capecitabine.

People with a severe or complete DPD deficiency usually start to have symptoms as babies. They might have:

* fits (seizures)
* a small head size (microcephaly)
* problems with their development such as walking and talking

**Cellular an dmolecular mechanism of DDD**

*Explain the mechanism*

**Testing for DDD and prevention of occurance**

**Survival prognosis**

*Conclusion 140 words*

*References*