Oral Squamous Cell Carcinoma: Challenges in Treatment for Low- and Middle-Income Countries: Fetching Towards the far Ahead Horizon

Dr. Arushi

ABSTRACT

This perspective article discusses the origin of tobacco, its spread and the changes it produces in human body, most prevalent of which it is oral squamous cell carcinoma. Especially in low-and middle -income countries, where the use of tobacco is already trend setting and concomitant cases are also increasing, so some simpler measures should be needed to implement which can reduce the size of the lesion and the lymph node shrink from the original size so that it prevents not only the load of reconstruction, but might also lead to improved mortality outcomes.

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I. INTRODUCTION

The advent of human form of lives on this planet Earth commenced billions of years ago, deriving the ancestry from marine life which upon finding land life more alluring thrived towards it resulting in newer species evolution in continuum till the point various species of chimpanzees and orangutans progressed through various eras of evolution to finally form the first species of humans and hitherto newer evolutionary species inhabiting in the Cenozoic era is Homo *homo Sapiens*.

This species, being the most intelligent of all the ones that follows in line of its succession can be reasoned to the cortical development which not only had interconnecting neural pathways between different primitive parts of the brain, but is also the highest seat of intelligence, thereby controlling all the complex decision-making processes and the curiosity. While this cortical gray matter has enabled humans not only theirs, but also of other species improvement in their living style and harnessing nature through various complex technologies, booming both science and technology. However, the discovery that tobacco can be obtained from the leaves of genus Nicotiana, indigenous to North and South America propelled native people to use this extracted product for religious and cultural purposes. [1] By the time Columbus discovered tobacco in other countries, the natives started using tobacco in pipes, cigars, and snuff. Subsequently, Portuguese and Spanish sailors helped to spread different forms of tobacco to be used, around the world. [2] as a consequence of what we can observe today, is the widespread us of tobacco in various forms in smoked and smokeless forms.

There is a direct or an indirect influence of culture on tobacco use as some sharing an inherited factor later become nicotine dependent. Boys see their grandfathers or fathers smoking, so they start consuming it as a part of their ritual. [3] Smoking is seen as part of being a man and a sign of his male authority. In India, the reasons for its use and continual addiction and dependence have been shoved off citing off various reasons such as it relives worry, prevents bad breath and helps in gastrointestinal issues. [4] Despite all defensive reasons given by normal population to promote and defy their own usage of this product and dealing in its business since many decades, , no one can shut their eyes to the fact that tobacco used in any form, whether by any sex, contains as per present scenario, 2550 known compounds which have at least 43 carcinogens and some radioactive substances involving polonium 210.[5] Different systems of our body are interrelated and they influence the use of any such

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product which is likely to cause health hazards affects many such body functions. Nicotine is one such product which affects top-to-bottom irreversible changes in body functions.

What and Why it Concerns us?

As oral pathologists and healthcare professionals, a grown trend has been seen in usage of nicotine usage not only by adults, but by even younger kids and adolescents throughout the current geographically marked entire States and Union Territories of India**.** Its active ingredients, tar, nicotine, and nitrosamine, are potentially associated with oral cancer worldwide. [(6)] consequently, it has been to cause nearly 85% of all the cancer deaths reported.

What Is Oral Squamous Cell Carcinoma And Its Deficits?

Oral cancer is a squamous epithelial category of tumours afflicting any region of the oral cavity, pharyngeal regions and salivary glands. However, this tends to be used interchangeably with oral squamous cell carcinoma (OSCC), representing the most frequent of all oral neoplasms documented to an approximate case of 90% of all the oral tumours. [(7)]

One of the biggest flakes that is persistent with this tumour is the fact the initial changes in the oral mucosa are so innocuous, that the patient themselves neglect these changes or is unable to visualise them, only later stages may present with some sort of bearable pain which is also neglected by population of low-to-middle income countries .Even though they are advised beforehand about the premalignant lesions developing and are advised to stop the habits through various schemes and health awareness camps organised.

Because of its addictive properties and lack of proper follow-up for tobacco cessation programs, they continue to use these products till the point the mouth opening reduces or a large ulcer proliferative lesion can be seen developing in the oral cavity, hampering their daily nutrition intake.[(8)] The screening procedures here become a failure and the TNM staging used for staging can prove the tumour already progressed to an advanced stage, leaving the patient to either undergo extensive surgical procedure concomitant radio or chemotherapeutic procedures.

These procedures, although have been developed to decrease morbidity and increase quality-of-care, however due to lack of advance technologies and insufficient funding source/lack of access to medical health insurance policies, they are unable to get the standard medical care from tertiary hospitals, resulting in either incomplete removal leading to recurrence or the unesthetic appearance of their faces thereby increasing morbidity for their nutrition. Despite advances in surgery and radiotherapy, which remain the standard treatment options, the mortality rate has remained largely unchanged for decades, with a 5-year survival rate of around 50%. [(9)] At later stages of pression that is stage II and III TNM of OSCC, metastases will occur in cervical lymph nodes in almost 80% of patients. Cervical lymphadenectomy (radical neck dissection) is traditionally applied in these cases. [(10)]

As the entire lymphatics drain from the head and neck into the upper, middle and deep cervical lymph nodes, removal of these becomes the ulterior motive since the ways to detect cervical lymph nodes is mainly through clinical examination or Cone-Beam Computed Tomography (CBCT), still the sentinel lymph nodes are most of the times missed during investigative procedures, therefore surgeon is left with no choice but to remove the entire chain of the corresponding side lymphatics which is in itself a most extensive and morbid procedure. Contrary to many times. lymph nodes upon histological examination are found to be intact without any capsular invasion.

II. NOVELTY FOR THE CAUSE THAT CAN BE CONSIDERED

Several mechanistic studies have provided detailed insight into the mechanistic basis for Lymph node Metastasis. The ability of tumour cells to migrate and invade Lymph nodes is associated with expression of particular receptor proteins and cytokines, eventually culminating in

the evasion and/or suppression of normal immune function such that these malignant cells can thrive within the LN microenvironment. [11] since the lymph nodes invasion takes place through passage of large venules with ultimately the aggressive tumour cells turning to mesenchymal cells, so as to evade the immune defence mechanism.

One way to curb the lymphatics flow till the surgery commences or the investigations are taking place, sclerosing agents can be injected against which would not activate inflammatory cells, but also would initiate fibrosis thereby, preventing further of the squamous cells deeper into the lymph nodes, thereby might also encase the further seeding of the cells. These agents have been used since decades to treat varicose veins and are compounds like sodium dodecyl sulfate.

This would not only shrink the lymph nodes, but also would at least would decrease the surgical extensive procedures and might would lead to more activation of immune response upon introduction of another foreign agent.

III. CONCLUSION

Sclerotherapy might be useful in cases of oral squamous cell carcinoma cases of low and middle-income countries who cannot afford such long stays at hospitals and overwhelming financial surgical procedure and might help in reducing further spread of the tumour.

REFERENCES

1. Goodman J. Abingdon: Routledge; 1994. Tobacco in history: The Cultures of dependence.
2. Qureshi B. Dordrecht: Kluwer: Academic Publishers; 1989. Transcultural Medicine.
3. Doyal N, Farren C, Naidoo J, Tilson J. London: HEA Helios Project; 1992. Smoking prevention for minority ethnic groups: A resource pack.
4. Gupta P. Chewing and Smoking: The Underestimated 53
5. Scott SE, Grunfeld EA, Main J, McGurk M. Patient delay in oral cancer: a qualitative study of patients' experiences. *Psych oncology*. 2006; 15:474–85
6. Mehrotra R, Yadav S, et al. Oral squamous cell carcinoma: aetiology, pathogenesis and prognostic value of genomic alterations. *Indian J Cancer*. 2006; 43:60–6.
7. Sharma P, Saxena S, Aggarwal P. Trends in the epidemiology of oral squamous cell carcinoma in Western UP: an institutional study. *Ind J Dent Res*. 2010; 21:316–9.
8. Siddiqui IA, Farooq MU, Siddiqui RA, Rafi SMT. Role of toluidine blue in early detection of oral cancer. *Pak J Med Sci*. 2006; 22:184–7.
9. Marsh D, Suchak K, Moutasim KA, et al. Stromal features are predictive of disease mortality in oral cancer patients. *J Pathol*. 2011; 223:470–81.
10. Shah JP, Gil Z. Current concepts in management of oral cancer: surgery. *Oral Oncol*. 2009; 45:394–401.
11. Zhou, H., Lei, P. J. & Padera, T. P. Progression of metastasis through lymphatic system. *Cells* 10, 627 (2021).