The Link between Smoking and Covid 19 — A Short Review

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ABSTRACT

Smoking is always said to be a risk factor in many of the health conditions. COVID 19 is a whole new chapter of its own. Recent research has stated that in COVID-19 smokers are 14 times more prone to death (Liu et al., 2020; Murin and Bilello, 2005). Our country has considered it and banned all the tobacco stores sales as well as purchase in the lockdown period. But what about those who have already stocked up the cigarettes or the ones who are waiting for the opening of lockdown so that they can have it again? Do they know the effects of smoking and this pandemic viral disease?

Awareness in Indians is lacking, and they do not know the effects of smoking. Literature refers to the comorbidities like smoking, cancer, cardiovascular disease, chronic obstructive pulmonary disease diabetes etc. as “pre-existing conditions”. The term coronavirus is used because of their appearance to a crown-like structure having long spikes of transmembrane glycoproteins. The link between coronavirus and smokers is still unknown. the role of angiotensin in smokers and its link-up with coronavirus needs to be understood. However, clarification regarding the casual link of these comorbidities to COVID-19 does not exist in the present literature. This article focuses on the link between smoking and COVID 19 and its effects. It provides detailed knowledge regarding the link between coronavirus and smokers, which is the need of the hour as awareness is necessary for the present condition. This article focuses on the present condition as well as the link between smokers and the coronavirus.

INTRODUCTION

Smoking is always said to be a risk factor in many of the health conditions. COVID 19 is a whole new chapter of its own. Recent research has stated that in COVID-19 smokers are 14 times more prone to death (Liu et al., 2020; Murin and Bilello, 2005). Our country has considered it and banned all the tobacco stores sales as well as purchase in the lockdown period. But what about those who have already stocked up the cigarettes or the ones who are waiting for the opening of lockdown so that they can have it again? Do they know the effects of smoking and this pandemic viral disease?
mediators used by the virus, as shown in Figure 1. “Angiotensin-converting enzyme (ACE2)” receptor binding agent is present on the S1 domain, which helps the virus to gain entry. The S2 domain is responsible for the fusion. These S proteins modify and expose the fusion part for cellular adhesion, and these modifications of S glycoproteins are done with the help of protein convertase known as "Furin". It is mainly seen in lungs and respiratory viruses. (Li, 2005; Coutard et al., 2020) ACE2 is the only or significant receptor of 2019-nCov is unknown in today’s scenario. (Cai, 2020)

Recent studies have shown that COVID-19 shows an affinity towards ACE2 which are upregulated mainly in the upper airway of smokers (Barnsley and Sohal, 2020) These ACE2 molecules on its activities as a “novel adhesion molecule” for COVID 19. A research carried out by Guoshuai Cai have reported the presence of higher ACE2 gene in smoker in comparison to non-smokers. Wang et al. also noted an ACE2 connection to smoking and Covid-19. (Wang et al., 2020) The adherence quality of virus to the surface to ACE2 protects them from “surveillance” mechanism, were they get tagged to the host for a more extended period which not only makes them efficient carrier, but also the host vulnerable for the spread of infection in future. This indicates the risk smokers are carrying with themselves in this pandemic. Figure 2 demonstrates the smoker’s airway diagrammatically.

The remarkable engulfment of ACE2 allows entry of virus in host cells system, which not only provides flourished environment to sustain and increase but also helps in mutation as well as modification of host evasion system. Taking all these research into considerations, it significantly suggests that patients having the chronic pulmonary disease as well as smokers are at higher risk for COVID-19 infection.

India is 3rd largest producer of tobacco Indian markets which might also be a possible explanation for high physical dependence. (Deolia et al., 2018) COVID-19 is a prep for the next pandemic situation. For the prevention of fatal microbial infections, the role of ACE2 "novel adhesion molecule" should be prioritised on a fast track basis for further research. As well as the link between smoking to infection, its transmission and progression of COVID-19 are necessary.

CONCLUSIONS

This article has focused on how the structure of coronavirus is and how it affects smokers or why smokers are more prone to COVID19. Awareness for the cessation of smoking is a need of the hour; but for a long time, healthy life self-quitting smoking is the only way to a healthy and have a happy life.

ACKNOWLEDGEMENT

We acknowledge all the people working at the Department of Orthodontics for their guidance and support during this work.

Conflict of Interest

The authors declare that they have no conflict of interest for this study.

Funding Support

The authors do not have any financial interest in the companies whose materials are included in this article.

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