

#### Article Information

Received date : 07 May, 2022

Published date: 18 May, 2022

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#### Key Words

Covid-19; Non-Smokers; Nicotine; Immune System

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# Comparison of Vaccinated Smokers and Non- Smokers COVID-19 Patients

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## Introduction

COVID-19 causes a Severe Acute Respiratory Syndrome(SARS) in some patients.

## Purpose

Comparison of vaccinated smokers and non-smokers Covid-19 patients, which leads to intubation and mechanical ventilation support.

## Method – Material

We studied 302 patients ( fully vaccinated).

Men > 50 years old and women > 55 years old.

302 patients were intubated and ventilated mechanically .

180 were non-smokers (59.6%). 110 men (61.1%) and 70 women (38.9%).

Smokers were 122 (40.4%) : Men 90 (73.77%) and women 32 (26.23%).

From the 90 men who smoked (73.77%), 14 had COPD (15.55%).

From the 32 women who smoked (26.23%), 17 had COPD (53.125%).

## Results

Non-smokers Covid-19 patients were more often intubated than smokers COVID-19 patients. Men smokers were intubated numerically more than women smokers and even more of these with non-COPD (Chronic Obstructive Pulmonary Disease). The proportion of women smokers with or without COPD, which were intubated and ventilated mechanically, it was the same. Of course, age > 60 years is a strong aggravating factor which lead to intubation and mechanical ventilation support. Smoking protects against COVID-19 Virus via nicotine receptors acetylcholine (nAChRs) which there are on the neurons, on the cells in immune system (including macrophages), on the heart vessels and on their lungs, thus it challenges a prevailing view that the virus enters to organism from the ACE 2 receptors on the lungs and they assume that the main receptors of COVID-19 disease are nAChRs on nerve cells. Receptors (nAChRs) interact with ACE 2 receptors and these are triggered by the nervous system, cause endogenous lung damage and hyperinflammatory reaction leading to atypical ARDS, characterizing a severe COVID-19 infection which lead to intubation and mechanical ventilation support.

## Conclusion

Nicotine appears an anti-inflammatory action and a positive immune response. After all, our conclusions are similar to hypothesis of researchers in France. Non-smokers COVID-19 patients were more often intubated than smokers COVID-19 patients.

## References

1. Miyara M, Tubach F, POURCHER V, Morelot-Panzini C, Pernet J, et al. (2020) Low incidence of daily active tobacco smoking in patients with symptomatic COVID-19. *Qeios* pp.
2. Changeux JP, Amoura Z, Rey F, Miyara M (2020) A nicotinic hypothesis for Covid 19 with preventive and therapeutic implications. *C R Biol* 343(1): 33-39.
3. Leung JM, Yang CX, Tam A, Shaipanich T, Hacket TL et al. (2020) ACE 2 Expression in the Small Airway Epithelia of smokers and COPD patients : implications for COVID-19. *Eur Respir J* 55(5): 2000688.