



Early View

Correspondence

Current Smoking is Not Associated with COVID-19

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Current Smoking is Not Associated with COVID-19

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Take home message:

Despite the main complications of SARS-CoV-2 infection regard lung involvement, the prevalence of current smoking in COVID-19 patients is very low even if one might have anticipated that opposite. Thus, the epidemiological data seem to question the role of coexisting active smoking as a risk factor for COVID-19 pneumonia.

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To the Editor -

We have read with interest the paper by Leung et al. recently published in European Respiratory Journal [1], reporting a higher expression of the protein ACE-2 in the small airways epithelia of smokers and COPD patients with putatively important implications for COVID-19 patients since ACE-2 has been shown to be the receptor utilized by SARS-CoV-2 to enter the host cells [2]. Furthermore the Authors reported that current smokers showed a higher expression of ACE-2 gene expression than non-smokers, concluding that the increased ACE-2 expression in smokers might predispose to increased risk of SARS-CoV-2 infection [1].

To this regard, all epidemiological data published so far, reported that COVID-19 patients show a very low prevalence of smokers, with no significant association between current smoking and severe disease in COVID-19 patients [3-6].

At the University-Hospital of Padova, located in the Veneto Region, one of the most SARS-CoV-2 affected area in Italy, between March 15 and April 10 2020, 132 patients were assessed in our clinic for SARS-CoV-2 related pneumonia. The analysis of patients' smoking history showed that no one was a current smoker, with 112 patients (84.8%) who had never smoked and 20 (15.2%) who were former smokers. These data are in agreement with those from China [3-6]. Furthermore there were no difference in the disease severity between patients who never smoked and former smokers. These data are even more striking if we consider that the percentage of current smokers in Italy and in Veneto Region is 25.7% and 22.7%, respectively [<https://www.epicentro.iss.it/passi/dati/fumo>].

Thus, the conclusions of Leung et al. [1] to consider cigarette smoking as a severe risk factor for COVID-19 pneumonia are in contrast with the strong and consolidated epidemiological data coming from China [3-6] that have been confirmed also in our patients.

References

1. Leung JM, Yang CX, Tam A, Shaipanich T, Hackett TL, Singhera GK, Dorscheid DR, Sin DD. ACE-2 Expression in the Small Airway Epithelia of Smokers and COPD Patients: Implications for COVID-19. *Eur Respir J* 2020; <https://doi.org/10.1183/13993003.00688-2020>.

2. Hoffmann M, Kleine-Weber H, Schroeder S, Krüger N, Herrler T, Erichsen S, Schiergens TS, Herrler G, Wu NH, Nitsche A, Müller MA, Drosten C, Pöhlmann S. SARS-CoV-2 cell entry depends on ACE2 and TMPRSS2 and is blocked by a clinically proven protease inhibitor. *Cell* 2020; <https://doi.org/10.1016/j.cell.2020.02.052>.
3. Guan WJ, Ni ZY, Hu Y, Liang WH, Ou CQ, He JX, Liu L, Shan H, Lei CL, Hui DSC, Du B, Li LJ, Zeng G, Yuen KY, Chen RC, Tang CL, Wang T, Chen PY, Xiang J, Li SY, Wang JL, Liang ZJ, Peng YX, Wei L, Liu Y, Hu YH, Peng P, Wang JM, Liu JY, Chen Z, Li G, Zheng ZJ, Qiu SQ, Luo J, Ye CJ, Zhu SY, Zhong NS. Clinical Characteristics of Coronavirus Disease 2019 in China. *N Engl J Med* 2020; Feb 28. <https://doi.org/10.1056/NEJMoa2002032>.
4. Guan WJ, Liang WH, Zhao Y, Liang HR, Chen ZS, Li YM, Liu XQ, Chen RC, Tang CL, Wang T, Ou CQ, Li L, Chen PY, Sang L, Wang W, Li JF, Li CC, Ou LM, Cheng B, Xiong S, Ni ZY, Xiang J, Hu Y, Liu L, Shan H, Lei CL, Peng YX, Wei L, Liu Y, Hu YH, Peng P, Wang JM, Liu JY, Chen Z, Li G, Zheng ZJ, Qiu SQ, Luo J, Ye CJ, Zhu SY, Cheng LL, Ye F, Li SY, Zheng JP, Zhang NF, Zhong NS, He JX. Comorbidity and its impact on 1590 patients with Covid-19 in China: A Nationwide Analysis. *Eur Respir J*. 2020 Mar 26. <https://doi.org/10.1183/13993003.00547-2020>.
5. Emami A, Javanmardi F, Pirbonyeh N, Akbari A. Prevalence of underlying diseases in hospitalized patients with COVID-19: a systematic review and meta-analysis. *Arch Acad Emerg Med* 2020; 8: e35.
6. Lippi G, Henry BM. Active smoking is not associated with severity of coronavirus disease 2019 (COVID-19). *Eur J Intern Med*. 2020 Mar 16. <https://doi.org/10.1016/j.ejim.2020.03.014>.