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Letter to the Editor

Case-finding of COPD and AI

Hallazgo de casos en EPOC con IA

We read with great interest the paper by Moreno Mendez et al.,[1] reporting near perfection prediction capability (AUC value exceeded 0.97) of GOLD 2023 post-BD airflow limitation (COPD) by using only pre-bronchodilation data in the absence of information on gender and age, variables identified via a machine-learning algorithm. Indeed, AI could be potentially useful as a disease screening method. However, we challenge their statement in Results: "*... The positive correlation between pre- and post-BDT spirometry results, along with the more widespread use of forced spirometry without bronchodilator testing in primary care centers, influenced the use of pre-BDT results instead of post-BDT results, without significantly affecting the predictive power of the model based on the AUC of the different classifiers analyzed*."

It is hard to challenge that post-BDT spirometry predicts COPD, as airflow limitation is in any COPD definition. Similarly, it is difficult to defend the usefulness of pre-BDT spirometry, as all COPD case-finding studies performed to date aim to reduce the number of spirometries needed to identify those still undiagnosed. Initiatives like GesEPOC[2] and GOLD recommend that post-BDT spirometry is still fundamental for diagnosing COPD, although pre-BDT spirometry can be used later during follow-up. Indeed, bronchodilation is a poor discriminative test in COPD.[3]

Finally, we cannot find the yield of their case-finding study, the number of discarded spirometries because of low quality, or a flow chart of participation, elements that help ensure clarity and transparency in observational research, as encouraged by reporting standards like the EQUATOR STROBE guidelines.[4] As a token, in our case-finding study of 10,071 adult smokers without prior respiratory diseases recruited by GPs from 48 primary care centres in Spain, COPD was confirmed using spirometry in only 1.9% of all participants.[5]

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References

1. Moreno Mendez R, Marín A, Ferrando JR, Rissi Castro G, Cepeda Madrigal S, Agostini G, et al. Artificial intelligence applied to forced spirometry in primary care. Open Respir Arch. 2024;6 Suppl. 2, http://dx.doi.org/10.1016/j.opresp.2024.100313, 100313 [eCollection 2024 October; PMID: 38828405].
2. Miravitlles M. Challenges of the New Spanish Guideline for Treatment of COPD (GesEPOC 2025). Open Respir Arch. 2025;7, http://dx.doi.org/10.1016/j.opresp.2025.100445, 100445 [eCollection 2025 July–September; PMID: 40547932].
3. Soriano JB, Mannino DM. Reversing concepts on COPD irreversibility. Eur Respir J. 2008;31:695–6, http://dx.doi.org/10.1183/09031936.00017008 [PMID: 18378779].
4. von Elm E, Altman DG, Egger M, Pocock SJ, Gøtzsche PC, Vandenbroucke JP, et al. The Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) statement: guidelines for reporting observational studies. Ann Intern Med. 2007;147:573–7, http://dx.doi.org/10.7326/0003-4819-147-8-200710160-00010 [PMID: 17938396].
5. Soriano JB, Molina J, Miravitlles M. Combining case-finding methods for COPD in primary care: a large, two-stage design study. Int J Tuberc Lung Dis. 2018;22:106–11, http://dx.doi.org/10.5588/ijtld.17.0334.

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