Website address:
https://www.gesundheitsindustrie-bw.de/en/article/press-release/new-study-identifies-clinically-relevant-changes-airway-wall-thickness-copd-and-risk-individuals

New study identifies clinically relevant changes in airway wall thickness in COPD and at-risk individuals

A recent study published in the European Respiratory Journal provides important new insights into the early identification and monitoring of chronic obstructive pulmonary disease (COPD). The focus is on airway wall thickness as an imaging marker for structural remodeling processes in the lungs.

The analyses are based, among other sources, on data from the HANSE study, a large population-based cohort in Germany. This enables researchers to investigate not only patients with diagnosed COPD, but also individuals without apparent disease who are at increased risk, for example due to smoking. As a result, pathological changes can be detected at very early stages.

At the center of the study, led by DZL researcher Mustafa Abdo, is the CT-based parameter Pi10, an established metric for quantifying airway wall thickness. The results show that increased Pi10 values are associated with reduced lung function and a higher disease burden. At the same time, a threshold was identified above which changes are considered clinically relevant and indicative of active disease processes.

Particularly noteworthy is the finding that structural changes in the airways can already be detected in at-risk individuals without a formal COPD diagnosis. This suggests that the disease begins much earlier than previously clinically apparent and opens up new opportunities for prevention and early intervention.

The findings also highlight the potential of modern imaging for personalized medicine in pulmonology. Quantitative CT analyses enable objective assessment and longitudinal monitoring of disease processes and may support more targeted therapy planning in the future.

Original publication:

Abdo M, Reck M, Stiebeler S, et al. Clinically Relevant Change in Airway Wall Thickness to Identify Disease Activity in COPD and Smokers At-Risk. Eur Respir J 2026; in press

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Further information

- German Center for Lung Research