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Defining severe obstructive lung disease in the biologic era: an endotype-based approach

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A new definition of severe obstructive lung disease is needed for the biologic era. Investigators, companies and regulators must collaborate in a phenotype- and endotype-based approach to improve access to biologics for patients most likely to benefit. http://bit.ly/2Zuiakg

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ABSTRACT Severe obstructive lung disease, which encompasses asthma, chronic obstructive pulmonary disease (COPD) or features of both, remains a considerable global health problem and burden on healthcare resources. However, the clinical definitions of severe asthma and COPD do not reflect the heterogeneity within these diagnoses or the potential for overlap between them, which may lead to inappropriate treatment decisions. Furthermore, most studies exclude patients with diagnoses of both asthma and COPD. Clinical definitions can influence clinical trial design and are both influenced by, and influence, regulatory indications and treatment recommendations. Therefore, to ensure its relevance in the era of targeted biologic therapies, the definition of severe obstructive lung disease must be updated so that it includes all patients who could benefit from novel treatments and for whom associated costs are justified. Here, we review evolving clinical definitions of severe obstructive lung disease and evaluate how these have influenced trial design by summarising eligibility criteria and primary outcomes of phase III randomised controlled trials of biologic therapies. Based on our findings, we discuss the advantages of a phenotype- and endotype-based approach to select appropriate populations for future trials that may influence regulatory approvals and clinical practice, allowing targeted biologic therapies to benefit a greater proportion and range of patients. This calls for co-ordinated efforts between investigators, pharmaceutical developers and regulators to ensure biologic therapies reach their full potential in the management of severe obstructive lung disease.

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