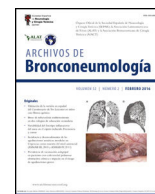




# ARCHIVOS DE Bronconeumología

www.archbronconeumol.org



## Clinical Letter

### Asthma-COPD Overlap – A Gateway to Biological Treatment

To the Director,

Asthma-COPD overlap (ACO) involves patients with asthma-like characteristics who have been exposed to COPD risk factors and developed persistent airflow obstruction (PAO).<sup>1</sup> These patients typically have more symptoms, lower quality of life, and a higher risk of exacerbations than COPD patients. According to the SEPAR consensus on ACO,<sup>2</sup> diagnosis is made in patients  $\geq 35$  years old, with  $\geq 10$  pack-years smoking history, PAO, and either a current asthma diagnosis, a highly positive bronchodilator test, or elevated blood eosinophilia. In terms of treatment, ACO patients have a poorer response to inhaled corticosteroids than asthma patients, but monoclonal antibodies approved for asthma can also be used, although real-world data on benralizumab is limited.

We present the case of a 54-year-old man ex-smoker with a 60 pack-year history, diagnosed with COPD and receiving triple inhalation therapy at a COPD clinic. He has undergone four surg-

eries for nasal polyposis, had PAO in all follow-ups, a positive skin test for dog and cat epithelia, and 6% blood eosinophilia (historically always above 460 eosinophils/ $\mu$ l). He had dyspnea with mMRC grade 1, wheezing since age 30, 5–6 exacerbations per year in recent years treated with antibiotics and oral corticosteroids, including two hospitalizations in the last year. He was referred to our asthma clinic, where an obstructive spirometry with a negative bronchodilator test (FEV1/FVC: 45%, FEV1: 48%), FeNO 99 ppb, IgE 259, and eosinophilia of 8.7% (700 eosinophils/ $\mu$ l) were observed. He was diagnosed with ACO, inhalation therapy was adjusted, and due to persistent poor control, benralizumab treatment was initiated. Over the three years of follow-up after starting benralizumab, he reported significant clinical improvement (ACT 23), requiring only one course of antibiotics and oral corticosteroids. Additionally, his nasal polyposis improved, with no further surgeries needed. FeNO decreased to 24, and he still has PAO, but with an FEV1  $> 80\%$ . See Fig. 1.

Given the clinical features consistent with asthma, recurrent nasal polyposis, frequent exacerbations despite appropriate treatment, and elevated T2 markers, along with COPD-related features

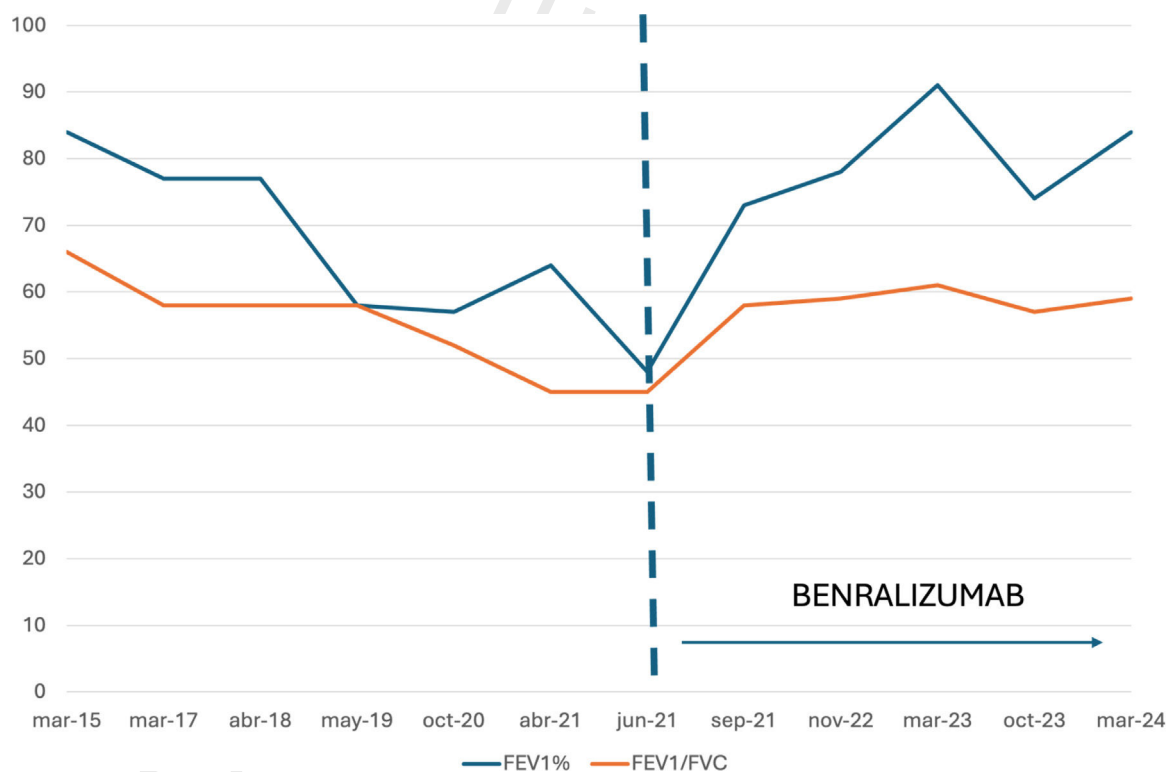


Fig. 1. Pulmonary function evolution.

<https://doi.org/10.1016/j.arbres.2024.10.006>

0300-2896/© 2024 SEPAR. Published by Elsevier España, S.L.U. All rights are reserved, including those for text and data mining, AI training, and similar technologies.

Please cite this article as: A. Padilla-Galo, M. Rubio Moreno and B. Valencia Azcona, Asthma-COPD Overlap – A Gateway to Biological Treatment, Archivos de Bronconeumología, <https://doi.org/10.1016/j.arbres.2024.10.006>

39 such as a 60 pack-year smoking history and PAO, the patient was  
40 diagnosed with ACO according to the SEPAR consensus criteria.<sup>2</sup>  
41 The lack of a standardized and universally accepted definition  
42 of ACO makes diagnosis complex, often leading to underdiagnosis.  
43 Furthermore, treatment options are limited as there are no  
44 specific biomarkers or standardized therapies. Clinical trials for  
45 biologic drugs in severe asthma excluded smokers, while COPD trials  
46 excluded patients with asthma features, leaving ACO patients  
47 unrepresented. This has resulted in ACO patients being less likely to  
48 receive biologics compared to those with severe asthma. Thus, real-  
49 world studies on the use of biologics in ACO are essential, though  
50 currently limited. The main real-world studies in ACO<sup>3,4</sup> focused on  
51 omalizumab, mepolizumab, reslizumab, and dupilumab. A recent  
52 study with benralizumab,<sup>5</sup> using insurance database records in  
53 the US, lacked clinical or spirometric criteria, introducing potential  
54 selection bias. Nevertheless, all real-world studies confirm  
55 biologics' effectiveness in ACO. This case highlights the clinical  
56 improvement and remarkable lung function response with benralizumab,  
57 emphasizing the need for accurate diagnosis and specific  
58 precision medicine treatments.

### 59 Conflict of Interests

60 Q2 The authors state that they have no conflict of interests.

### References

1. GINA 2024. Available from: <https://ginasthma.org> [accessed 20.09.23]. 62
2. Plaza V, Álvarez F, Calle M, Casanova C, Cosío BG, López-Viña A, et al. Consensus on the asthma-COPD overlap syndrome (ACOS) between the Spanish COPD guidelines (GesEPOC) and the Spanish guidelines on the management of asthma (GEMA). Arch Bronconeumol. 2017;53(8):443-9. 63
3. Shim JS, Kim H, Kwon JW, Park SY, Kim S, Kim BK, et al. A comparison of treatment response to biologics in asthma-COPD overlap and pure asthma: findings from the PRISM study. World Allergy Organ J. 2023;16(12):100848. 64
4. Pérez de Llano L, Dacal Rivas D, Marina Malanda N, Plaza Moral V, Gullón Blanco JA, et al. The response to biologics is better in patients with severe asthma than in patients with asthma-COPD overlap syndrome. J Asthma Allergy. 2022;15:363-9. 65
5. Carstens DD, Maselli DJ, Cook EE, Mu F, Chen J, Yang D, et al. Real-world effectiveness of benralizumab among patients with asthma and concomitant chronic obstructive pulmonary disease. Int J Chron Obstruct Pulmon Dis. 2024;19:1813-8. 66

Alicia Padilla-Galo\*, Marina Rubio Moreno, Borja Valencia Azcona Q1

*Servicio de Neumología, Hospital Universitario Costa del Sol, Spain*

\* Corresponding author. 76

E-mail address: [aliciapadillagalo@gmail.com](mailto:aliciapadillagalo@gmail.com) (A. Padilla-Galo). 77