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## Reply to: Asthma-chronic obstructive pulmonary disease overlap syndrome: Is prediction feasible?

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Sir,

We read the letter “asthma-COPD overlap syndrome: Is prediction feasible?”<sup>[1]</sup> with keen interest and thank the authors for raising certain very pertinent issues with regard to our paper.<sup>[2]</sup>

We agree that the diagnostic criteria for asthma-chronic obstructive pulmonary disease (COPD) overlap syndrome (ACOS), or as it is simply referred to as asthma-COPD overlap (ACO), in our study group were limited to a single criteria: significant bronchodilator reversibility (change in postbronchodilator forced

expiratory volume in 1 s [FEV<sub>1</sub>] or forced vital capacity [FVC] by 12% and 200 ml) in the background of persistent postbronchodilator airflow limitation (FEV<sub>1</sub>/FVC <70%). We have also mentioned that more exhaustive criteria have been used by other studies in the opening paragraph of the discussion in our paper. We agree that this is a limitation in our study, as discussed in the closing paragraph of our discussion. However, we would like to bring to attention to the authors on our concluding statement in our discussion: in spite of a single diagnostic criteria being applied to identify the ACOS group in our study population, we found that features attributed to the ACOS group in our study population have been identified

to be similar to those identified in patients diagnosed with ACOS with more exhaustive diagnostic criteria in other

studies. Whether a single diagnostic criterion alone can suffice to identify this group of patients probably requires further research.

**Table 1: Distribution of study population with respect to ankle edema**

	Crosstab		Total
	Group		
	1	2	
Ankle edema			
1			
Count	17	17	34
Expected count	18.4	15.6	34
Percentage within ankle edema	50.00	50.00	100.00
2			
Count	36	28	64
Expected count	34.6	29.4	64
Percentage within ankle edema	56.30	43.80	100.00
Total			
Count	53	45	98
Expected count	53	45	98
Percentage within ankle edema	54.10	45.90	100.00

ACOS: Asthma-chronic obstructive pulmonary disease overlap syndrome, Group 1: Non-ACOS, Group 2: ACOS, Ankle edema 1: Present, Ankle edema 2: Absent

Second, the authors have identified that in Table 1, there is a record of postbronchodilator drop (or minus values) in spirometric indices in some patients in the non-ACOS group in the percentage reversibility (up to -22%) and volume reversibility (up to -270 ml). The ATS/ERS Task Force on standardization of lung function testing published in 2005 has summarized that inter-maneuver variability of up to 150 ml is accepted in FVC and FEV1, and values greater than that may be due to incomplete inhalations before the FVC maneuver.<sup>[3]</sup> In these patients of our study group, up to a maximum of eight maneuvers were attempted, and hence, we had to take the best three maneuver recordings in spite of not completely meeting the acceptability criteria of inter-maneuver variability.

Third, the authors have brought to notice on the nonreproducibility of results with respect to the findings

**Table 2: Statistical analysis output data with respect to ankle edema**

	Value	df	Asymptotic significance (two-sided)	Exact significance (two-sided)	Exact significance (one-sided)
Pearson $\chi^2$	0.349 <sup>a</sup>	1	0.0455		
Continuity correction <sup>b</sup>	0.143	1	0.705		
Likelihood ratio	0.349	1	0.555		
Fisher's exact test				0.671	0.352
Linear-by-linear association	0.346	1	0.557		
Number of valid cases	98				

<sup>a</sup>0 cells (0.0%) have expected count less than 5. The minimum expected count is 15.61, <sup>b</sup>Computed only for a 2x2 table

**Table 3: Distribution of study population with respect to ER visits**

	Group		Total
	1	2	
Number of ER visit last year			
1			
Count	31	24	55
Expected count	29.7	25.3	55
Percentage within number of ER visit last year	56.40	43.60	100.00
2			
Count	22	21	43
Expected count	23.3	19.7	43
Percentage within number of ER visit last year	51.20	48.80	100.00
Total			
Count	53	45	98
Expected count	53	45	98
Percentage within number of ER visit last year	54.10	45.90	100.00

ACOS: Asthma-chronic obstructive pulmonary disease overlap syndrome, Group 1: Non-ACOS, Group 2: ACOS, ER: Emergency room

**Table 4: Statistical analysis output data with respect to ER visits**

	Chi-square tests				
	Value	df	Asymptotic significance (two-sided)	Exact significance (two-sided)	Exact significance (one-sided)
Pearson $\chi^2$	0.263 <sup>a</sup>	1	0.038		
Continuity correction <sup>b</sup>	0.095	1	0.758		
Likelihood ratio	0.263	1	0.608		
Fisher's exact test				0.685	0.379
Linear-by-linear association	0.26	1	0.61		
Number of valid cases	98				

<sup>a</sup>0 cells (0.0%) have expected count less than 5. The minimum expected count is 19.74, <sup>b</sup>Computed only for a 2x2 table

on ankle edema and number of ER visits. We used STATA statistical analysis software (Manufacturer StataCorp, College Station, Texas, USA) and calculated significance with Pearson's Chi-square test for ankle edema [Tables 1 and 2] and number of ER visits [Tables 3 and 4] as shown in the tables which have been reproduced from our STATA output file.

As it can be seen from the [Tables 1-4], we did find significance in both the parameters.

We once again would like to thank the authors for their interest in our paper.

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Nil.

**Conflicts of interest**

There are no conflicts of interest.

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**REFERENCES**

1. Karim HM, Esquinas AM. Asthma-chronic obstructive pulmonary disease overlap syndrome: Is prediction feasible? *Lung India* 2018;35:540-41.
2. Ayub II, Arshad AM, Sekar P, Manimaran N, Thangaswamy D, Chockalingam C, et al. Predictors of asthma-chronic obstructive pulmonary disease overlap syndrome in patients with chronic obstructive pulmonary disease from a tertiary care center in India. *Lung India* 2018;35:137-42.
3. Miller MR, Crapo R, Hankinson J, Brusasco V, Burgos F, Casaburi R, et al. General considerations for lung function testing. *Eur Respir J* 2005;26:153-61.

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