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Asthma-associated bronchiectasis: More attention needed!

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To the editor,

Fewer researches have been performed on the coexistence of bronchiectasis and asthma due to the neglects and not enough attentions [1]. Recently, Jarkko Mantyla has investigated the characteristics and outcomes of patients with bronchiectasis in Finland, of which he has specifically addressed bronchiectasis caused by asthma [2]. He found that clinical parameters including body mass index (BMI), high-resolution computed tomography (HRCT) ≥ 4 affected lobes, and the number of hospitalization due to exacerbations were higher in the 25 cases (26%) with bronchiectasis caused by asthma compared to those in the 70 patients with bronchiectasis caused by miscellaneous aetiologies. However, these two groups had similar lung functions including FEV1% and FVC %. Would a similar pattern of demographic and outcome characteristics be applied to Chinese patients with bronchiectasis caused by asthma? To address this question, we retrospectively analyzed 234 hospitalized patients aged ≥18 years with non-cystic fibrosis bronchiectasis in the past 8 years in West China hospital. Asthma was considered as the etiology driver to bronchiectasis if it was diagnosed earlier than bronchiectasis, consistent with the definition in the study by Jarkko Mantyla [2]. Our results showed that: among the 32 patients (14%) with bronchiectasis complicated with asthma, 15 patients (6%) were caused by asthma, with higher BMI and worse lung ventilation function (FEV1%, FEV1/FVC, MMEF%) (Table 1). The difference in lung functions in the two studies might be explained by the distinctive population ethnicities and different severity of the disease. In our study, the patients were all in hospitalization, while the patients were all outpatients in the department of allergy in Jarkko's study.

In summary, both our study and the study by Jarkko Mantyla have demonstrated that patients with bronchiectasis caused by asthma might represent a specific phenotype, to which more attention and efforts should be paid due to the potentially worse clinical outcomes.

Table 1
Characteristic of the patients with bronchiectasis caused by asthma or others.

Parameter	Asthma-caused BE (N = 15)	Miscellaneous BE (n = 219)	*P* value
Age, years	50.6 ± 11.0	53.6 ± 13.0	0.38
BMI, Kg/m^2	24.9 ± 4.3	21.2 ± 3.4	**0.03**
Gender, Female, n (%)	9 (60)	114 (52.1)	0.55
Current smoker, n (%)	2 (13.3)	23 (10.5)	0.73
Ex-smoker, n (%)	1 (6.7)	47 (21.5)	0.17
HRCT ≥ 4 lobes affected, n (%)	7 (46.7)	64 (29.2)	0.16
Cystic bronchiectasis, n (%)	7 (46.7)	86 (39.3)	0.57
FEV_1%, mean ± SD	53.8 ± 12.5	71.7 ± 13.8	**0.01**
FVC%, mean ± SD	79.2 ± 25.0	84.0 ± 21.3	0.41
FEV_1/FVC, median (IQR)	45.0(40.9, 60.4)	70.9(56.4, 80.2)	< **0.01**
MMEF%, median (IQR)	14.1(9.0, 26.1)	38.0(18.0, 66.1)	< **0.01**

BE: Bronchiectasis; FEV_1, forced expiratory volume in 1 s; FVC, forced vital capacity; MMEF, maximal mid-expiratory flow; *P* values < 0.05 were highlighted in bold. For continuous variables, a test of normality of distribution were performed by the Kolmogorov-Smirnov test. Normally distributed data was expressed as means ± standard deviation and analyzed by the Independent-sample Student's t-test; otherwise was displayed as the medians and interquartile ranges and tested by non-parametric test. Categorical data were expressed as numbers and percentages and was analyzed using Chi-square test. The significance level was set at $p < 0.05$.

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