

Chest tightness variant asthma: deja vu all over again

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Asthma is a serious problem that, according to WHO estimates, affects 235 million people (1). Apart from the typical symptoms of “recurrent episodes of wheezing, dyspnea, chest tightness, and coughing, particularly at night or in the early morning” (2), asthma may be manifested in various clinical phenotypes, and readily misdiagnosed as conditions such as chronic bronchitis, cardiovascular diseases, and mental disorders. Raising physicians’ awareness of these clinical phenotypes can be of significant help in reducing misdiagnosis of asthma. Corrao *et al.* (3) first reported “cough variant asthma (CVA)”, a phenotype of asthma presenting only with chronic cough. Of outpatients with chronic cough in China, one-third had CVA (4). The widely recognized definition of CVA greatly helped physicians reduce misdiagnosis and treat the patients correctly. In 1992, Zhong *et al.* reported “potential asthma,” another clinical phenotype of asthma, and emphasized that people with asymptomatic bronchial hyperresponsiveness are at high risk of asthma (5). Potential asthma was further demonstrated by Laprise *et al.* in 1997 (6), and then by van den Nieuwenhof *et al.* (7) and Shaaban *et al.* (8) in 2008. Potential asthma may not always develop into symptomatic asthma if managed at an early stage. Recently, Shen *et al.* reported a notable clinical subtype of asthma, “chest tightness variant asthma (CTVA)” (9). Although chest tightness as a sole symptom in asthma was mentioned by Farr *et al.* 40 years ago (10), it is worthwhile reminding physicians that chest tightness may be related to asthma rather than cardiovascular diseases.

As common symptoms, either cough or chest tightness may be associated with different diseases. Only patients with both bronchial hyperresponsiveness (or diurnal peak expiratory flow variation of >20%) and good clinical

response to beta-2 agonists (with or without inhaled corticosteroids), rather than improvement of bronchial hyperresponsiveness alone, can be confirmed with asthma.

Sufficient data are yet to be collected to clarify whether CTVA can be defined as an independent “clinical phenotype” regarding the prevalence, risk factors, course of disease, clinical features, management, and prognosis, as well as co-existing mental disorders. In Shen’s cohort, 42% of CTVA patients showed concomitant anxiety. However, the causal relationship between asthma and anxiety remains unclear. Are patients with mental disorders prone to develop CTVA, or do patients develop mental disorders because they suffer from CTVA? There is no doubt that mental disorders should be treated properly in addition to asthma management, so as to break the vicious cycle of mental disorders and CTVA.

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