
Chronic cough: An Indian perspective

Sir,

We read with great interest the recent excellent review article on the management of chronic dry cough.^[1]

We support the use of the concept of “cough hypersensitivity syndrome” in routine clinical use. Other than suggesting a universal mechanistic explanation for chronic cough, it also offers a novel therapeutic target.^[2,3] Capsaicin cough challenge tests unfortunately neither have the requisite sensitivity nor specificity to aid in the diagnosis of cough hypersensitivity,^[4] as alluded to in the review. Although as a group, patients with chronic cough are clearly more sensitive as compared to healthy volunteers, there is a wide variation in the cough group as well as in healthy volunteers precluding the use of capsaicin cough challenge as a diagnostic test.^[5] Indeed, any of the common tussive challenges evaluated (capsaicin, citric acid, tartaric acid, and distilled water) do not offer a “diagnostic test” and this is a very important, as yet unmet, clinical need.

There are some merits in regarding chronic cough as a neuropathic disorder.^[6] Extrapolating its use in chronic pain where the suggested pathogenesis is similar to “cough hypersensitivity,” Ryan *et al.* demonstrated successful outcomes in the treatment of chronic cough with gabapentin.^[7] This was a double-blind, randomized,

placebo-controlled trial. Gabapentin is a familiar drug to most physicians and is now a medication that may be considered for use in chronic refractory cough. P2X3 receptors are expressed by airway vagal afferent nerves and may contribute to cough hypersensitivity. In a very promising study, it has been recently demonstrated that a first-in-class oral P2X3 antagonist, AF-219, markedly reduces cough frequency. This was based on an objective cough recording.^[8] This drug is currently being evaluated in a large multicentric trial and hopefully the results should be available soon.

Concomitantly, we may also need to take an India-specific perspective. In our recent systematic review and meta-analysis on the global epidemiology of chronic cough in general adult populations, we had identified four studies that met the requisite criteria for inclusion from India. Compared to the pooled global prevalence of 9.6%, that from India was less than 5%.^[9] It would be erroneous to draw any definitive conclusions regarding the relatively lower prevalence; this needs a multinational prospective survey with a standardized protocol. Several studies have suggested the risk factors that are particularly applicable to India such as the use of biomass fuel, outdoor air pollution and beedi smoking.^[10-15] Respiratory symptoms, including cough, are more commonly reported by beedi smokers as compared to cigarette smokers.^[16] There could be many

other determinant factors for chronic cough epidemiology that are specific to the Indian population.

The etiology of cough from the tropics can also be different. Nadri and D'Souza prospectively evaluated 87 consecutive patients presenting with cough based on the suggested "anatomic diagnostic protocol" and reported their results in this journal. In 8% of the cases, Löffler syndrome or tropical pulmonary eosinophilia was diagnosed. Pulmonary tuberculosis (TB) was diagnosed in 5% of the cases.^[17] In a cross-sectional, community-population survey, the presence of cough for more than 1 week was evaluated as a possible marker of undiagnosed TB and paragonimiasis cases across 63 remote villages from two states in Northeast India. Over 4,000 subjects were included in the study. The prevalence of cough in the states of Arunachal Pradesh and Assam studied was 37.4% and 23.5%, respectively. Among those with cough, pulmonary TB was diagnosed in 2.64% and 11.6% of the cases and paragonimiasis, based on serology, was confirmed in 7.6% and 1.2% of the cases, respectively, from the two states.^[18] These findings warrant additional consideration from clinicians in making differential diagnoses of chronic cough.

Although the currently accepted concepts of chronic cough are universally applicable, risk factors and causes of cough from a tropical perspective can be quite different from those reported from other parts of the world. This needs to be taken cognizance of when evaluating a patient presenting with cough.

Shoaib Faruqi, Woo-Jung Song¹

Department of Respiratory Medicine, Castle Hill Hospital, The Hull and East Yorkshire Hospitals NHS Trust, Cottingham, UK,

*¹Department of Internal Medicine, Seoul National University College of Medicine, Seoul, South Korea
E-mail: Shoaib.Faruqi@hey.nhs.uk*

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10.4103/0970-2113.168108