

Components of airway disease

To the Editors:

“What we think we know already often prevents us from learning”
(Claude Bernard)

I endorse the view of HARGREAVE and PARAMESWARAN [1] that the components of airway disease, inflammation (bronchitis), reversibility (asthma), and chronic airflow limitation (chronic obstructive pulmonary disease (COPD)), are not “mutually exclusive and [...] commonly occur together.” I would like to mention further evidence in support of their position.

I would add the longitudinal (natural history) perspectives of the primary-care practitioner [2] and the epidemiologist [3]. Clinical reports from primary care document that acute bronchitis can precede asthma, which then develops into severe COPD over a few years [4] to decades [2]. Perhaps the best longitudinal evidence derives from a cluster-randomised, population-based 20-yr prospective study finding that asthma was the strongest risk factor for subsequent COPD, both in relative (hazard ratio (HR)=12.5) and absolute (attributable risk (AR)=18.5%) terms compared with tobacco smoking (HR=2.9 for current smoking, AR=6.7% for ever-smoking) [3].

The dogma that asthma and COPD are different diseases (and therefore should be studied separately) appears to have been derived from the mainly cross-sectional perspectives of academic referral lung specialists (adult and paediatric allergists, pulmonologists) who for the most part have not had the opportunity to observe the natural history of lung

disease over a patient’s lifetime. I can think of no better explanation for a recent statement by a prominent leader in lung research: “Chronic obstructive pulmonary disease is probably the only chronic disease for which the finger of blame can be pointed at a single risk factor – tobacco smoking” [5].

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Three new cases of apparent occupational asthma in swine confinement facility employees

To the Editors:

In a previous issue of the *European Respiratory Journal*, DOSMAN *et al.* [1] reported on four cases of occupational asthma in newly employed workers in the large, recently developed, swine production facilities in Saskatchewan (Canada). All were full-time employees and all developed symptoms suggestive of asthma within a short time of commencing employment. None of the cases had a history of asthma, allergy symptoms or previous exposure to indoor air contaminants of swine confinement facilities. Work in swine buildings has been associated with respiratory symptoms, reductions in mean and across-shift lung function values [2], and increased bronchial responsiveness [3, 4]. Asthma has been reported in swine workers, but this has typically occurred in workers with lengthy employment [5, 6].

Cases 1–3 in our initial report showed some reaction to skin-prick allergy tests. While forced expiratory volume in one

second (FEV₁) for case 1 was relatively stable over time, provocation challenge causing a 20% fall in FEV₁ (PC₂₀) was reduced for several months following resignation from the swine barn. Case 1 also experienced symptoms requiring removal from the barn during a re-entry challenge. It was speculated that these cases might exhibit a type of occupational asthma, described by BROOKS *et al.* [7], as “not-so-sudden onset” nonallergic asthma resulting from irritant exposure over a number of months.

Since the initial study [1], we have encountered three additional cases that have been labelled as cases 5, 6 and 7 (table 1). In contrast to the previous four cases, the cases reported herein are all male. Again, none of the cases had a history of asthma or wheeze and none had reported previous regular occupational exposures in a swine confinement facility. Each of the cases developed symptoms within weeks to months of commencing employment and each has had continued sensitivity to exposures in a swine barn.