

peak flow or another objective parameter of airflow, put their patients and themselves in jeopardy.

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INFECTION AS A CAUSE OF ASTHMA

To the Editor:

I agree with J. Montgomery Smith¹ that an unidentified infectious agent or agents could explain many of the epidemiologic characteristics for various forms of asthma. As pointed out by Dr. Smith,¹ identification of a viral cause might lead to preventive strategies. I wish to comment on the evidence suggesting that chlamydial infections cause some types of asthma.

Like Dr. Smith's hypothesized virus, chlamydial infections are chronic, intracellular and localized. They produce immunopathologic disease via chronic inflammation (including eosinophilic inflammation), and are therefore prime candidates as infectious initiators and promoters of the inflammatory cascade in asthma. *C. trachomatis*, which causes chronic pneumonia and eosinophilia in infants, is associated with the later development of childhood asthma.² *C. pneumoniae*, an important respiratory pathogen, is associated with asthma in both adults³ and children.⁴

Unlike Dr. Smith's hypothesized virus, chlamydia are treatable with conventional antibiotics. I recently

encountered a patient with chronic adult-onset asthma and eosinophilia who was persistently culture-positive for *C. pneumoniae*. His pulmonary function normalized, and his symptoms disappeared entirely, after treatment with azithromycin, one gram, administered once weekly for three doses (a single one gram dose is approved for the treatment of uncomplicated urethritis or cervicitis caused by *C. trachomatis*, but *C. pneumoniae*-associated asthma requires between three to six weeks of treatment to prevent relapse⁵).

The entity of chlamydial asthma exists. Further investigation is needed to determine how common it is, at what stage of its natural history it becomes irreversible⁵ and whether it is contributing to increasing worldwide prevalence, inner city asthma⁴ or family transmission of asthma.¹ Dr. Smith¹ has presented an infectious hypothesis that suggests important new areas for future asthma research. Responsible government agencies should prioritize funds to investigate possible infectious etiologies for asthma.

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Response:

It is possible that chlamydia could sometimes be a primary cause of asthma. On the other hand, like intercurrent viral infections, chlamydiae could serve to activate the disease and keep it active because of their tendency to infect chronically.

I chose a viral hypothesis for at least two reasons. First, if one is going to include the specific IgE response abnormality as part of the same disease a viral cause fits better as a reason for a localized, self-perpetuating IgE abnormality. Secondly transmission seems to be relatively more difficult for atopy and asthma than is the case for chlamydia. There is good epidemiologic reason to expect that causal contact is not a problem (and may even be responsible for a degree of "herd immunity"). In two-thirds of cases of atopy the IgE abnormality begins to develop in utero or at very young ages in those with affected parents. Susceptibility in the newborn or in early infancy is characteristic of some viral animal infections.

In the 1950s when bacterial sinusitis was thought to be a primary cause of intrinsic asthma, new antibiotics were welcomed with great hope. They have proven useful but often disappointing. The treatment of a specific organism involved in some cases may give better results. An effort to study the frequency and treatment of chlamydial infection in asthma is needed. I, too, hope "responsible government agencies" are listening.

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