Once again have been eligible for our original so-called "emphysema study."

Finally, there seems to be a tendency to ignore an entity which in my current experience is even more common than what I would call "chronic obstructive lung disease." It is associated with some degree of chronic cough and wheeze but manifests extremely variable lung function. Even after maximum therapy, a mild degree of airways obstruction may persist, but the major problem is episodic bronchoconstriction. The long-range prognosis for this type of patient is totally unknown. It is evident, however, that prognosis would not be predictable from a single lung function test in such an individual. As exemplified by one of my current patients, the syndrome (let's call it "asthmatic bronchitis") can progress to severe irreversible disease which, at its end stage, cannot be distinguished from the kind of case we enrolled in our "emphysema study" in Chicago 20 years ago.

There are really three major points of this talk. First, it is unreasonable to assume that every mild ventilatory abnormality discovered on a routine survey represents an early stage of "chronic obstructive lung disease." Secondly, one should be very cautious in interpreting individual rates of decline in lung function, especially over periods less than ten years. Finally, I am not convinced that we yet know the pre-clinical course of most patients who develop severe disabling chronic airways obstruction. While some may show a steady decline in lung function throughout the whole of their adult life, others may retain relatively normal function and then decline rapidly shortly before the onset of clinical symptoms. Still others may go through a stage of episodic bronchoconstriction which can last for many years before irreversible disease occurs.

REFERENCES


The Influence of Bronchitis and Asthma in Infancy and Childhood on Lung Function in Schoolchildren*

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Chest, 77: 2, February, 1980 SUPPLEMENT

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In order to document the effect of bronchitis and asthma in infancy and early childhood on subsequent lung function, a prospective study of the lung function of a random sample of Sydney schoolchildren was begun in 1971. At the first study, a parental questionnaire was used to obtain a history of previous asthma and bronchitis, severe enough to require treatment by a medical practitioner. Maximal expiratory flow volume (MEFV) curves were recorded with a Fleisch no. 3 pneumotachograph onto magnetic tape. After digital conversion, the forced expiratory volume in 0.5 and 1.0 sec (FEV0.5 and FEV1), the forced vital capacity (FVC) and the maximal flow at 50 percent of the FVC (V50) were calculated. The lung function studies were repeated each year between 1972 and 1974, at which time a history of respiratory illness in the previous 12 months and a personal smoking history were recorded. In 1971, 4,639 children from primary schools (mean age 8.9 years) and 6,259 children from secondary schools (mean age 12.6 years) were studied. At this time the children were divided into five groups based on history: 1) bronchitis with first attack before age two; 2) bronchitis, first attack after age two; 3) asthma; 4) asthma and bronchitis; 5) neither asthma nor bronchitis. Mean values for lung function were calculated for each group excluding children with cough in the last six weeks or with current wheezing. Lower values for V50 (but not for other measurements) were found in groups 1, 2, 3 and 4 compared with group 5 for both age groups and sexes. The differences were highly significant for all groups and were still present in 1974. In 1974, the data from smokers were compared with those from nonsmokers. The secondary school boys in group 2 (mean age 15.6 years) who smoked had lower values for V50 than nonsmokers (P < 0.01). Most other groups had too few smokers for meaningful analysis. The studies suggest that bronchitis as well as asthma in infancy and in childhood may affect lung function as children grow, that the abnormality may not be detected by the forced expiratory volume, that the abnormality persists, and that it is possible that it is further affected by smoking.

Q: In young children, how do you separate bronchitis from asthma?

A: We rely on diagnosis by the private physician or hospital records. Sometimes the conditions are difficult to differentiate.

The Role of Air Pollution, Smoking and Respiratory Illnesses in Childhood in the Development of Chronic Bronchitis*

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