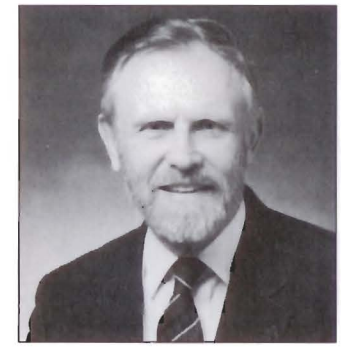
Dying from asthma



It has come as a surprise that the most common topic in papers so far submitted to the *Journal* concerns the high rate of mortality from asthma in young people. This brought the realization that I probably know less than I ought about the factors thought to contribute to asthma mortality, and sent me off on a self-directed learning exercise, in true McMaster tradition. Also in this tradition, I sought help from MEDLINE and from colleagues that know a lot more than I do. A search of the last two years' publications, limited to reviews in English, turned up 33 papers, which I will not be referencing because they are just as easy for you to retrieve as me to list them; however, I will be delighted to send them to anyone who wants them. As to colleagues, I have the good fortune to have Malcolm Sears close by, and he politely and modestly sent me a reprint of a paper written in collaboration with a New Zealand colleague. This I found to be a superb review and I will give the reference as you may not come across it (1). From these sources, some thoughts from a nonexpert.

First, many papers refer to asthma deaths of epidemic proportions. Sears provides the data to put this statement into perspective. In the 1960s deaths from asthma in the five- to 34-year age bracket increased in New Zealand, Australia and the United Kingdom from around one to between two and three per 100,000 persons in this age group, falling to one to two by 1974; in the period 1977 to 1988 New Zealand experienced a second increase that peaked in 1981 when it reached 4.1 per 100,000, "a figure not matched elsewhere in the world either before or since". Meanwhile, the rate in Canada was between 0.2 and 0.3 in the '60s and '70s and has since crept up to reach 0.51 in 1986, with 0.37 per 100,000 in 1990. A new study by RS Hogg and colleagues in Vancouver, published in the *Journal* earlier this year (2), examined changes in mortality rates and calculated their impact on life expectancy. They found a gradual reduction in rates, greater for males than females, from a high of 4.5 in the early 1950s to around 2.0 per 100,000 in the 1980s; in the age group five to 34 years the rates were approximately 1/10th of those in New Zealand, at 0.20 to 0.45, with no significant trend over the 45 years under study. Hogg et al concluded that asthma did not have a significant impact on the overall life expectancy of Canadians. The 'epidemics' of increased mortality rates followed the marketing of potent beta$_2$-agonists and declines in mortality followed reductions in their use; Sears and Taylor provide the evidence in their review, and have been in the forefront of research on which this conclusion may be based. Bearing in mind the recent report of the World Health Organization that poverty is the main cause of illness and death in developing countries, the absence of statistics from poorer countries is probably of great importance; the data reviewed by Sears and Taylor were obtained in six of the G-7 countries and in five others that probably feel that they also should be in this economic grouping. None of them will be within an order of magnitude of the countries that spend as little as $4 for each of their subjects per year on health care.

Second, several of the reviews provide evidence from the United States that show higher mortality in Blacks than in Caucasians, and within cities such as New York and Chicago higher rates in the poorer areas. Also in those areas, males outnumbered females by three to one; drug abuse was not a factor. Clearly psychosocial and economic factors that may influence access to care and effective treatment are of great importance. In a study of patients dying in Brooklyn, only two of 14 patients were receiving steroids.

Third, a number of studies have tried to explain why individual patients died from asthma. All considered most of the deaths as preventable and provided evidence that the following factors were important: poor perception of asthma severity; inadequate education regarding the illness and poor compliance with treatment; delay in seeking treatment; and significant iatrogenic factors resulting in an inadequate and slow treatment response.

Where does this leave us, as Canadian respirologists? We can feel happy that our mortality rates are not bettered, but we cannot be complacent. The effect of the socioeconomic factors are worrying, especially at a time when there is a risk that health services are going to get less accessible; we must ensure that they do not interfere with access to optimal management. The importance of patient education and particularly of specific self-management instructions and goals of treatment was emphasized in the recent first supplement to the *Journal* (1995;2[Suppl A]:1A-52A). Finally, education for physicians must be a priority; a recent review of the results of practice audits suggested that many physicians are unaware of the guidelines for optimal management of severe asthma.

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2. Hogg RS, Schechter MT, Montaner JSG, Hogg JC. Asthma mortality in Canada, 1946 to 1990. Can Respir J 1995;2:61-6.