LEADING ARTICLE

A SECOND LOOK AT TUBERCULOSIS MORTALITY STATISTICS

S K Teo

SINGAPORE MED J 1990; Vol 31: 409 - 410

Tuberculosis mortality statistics are based on information given on the death certificate. Deaths from tuberculosis, especially when the disease is active, give an idea of the efficiency of the tuberculosis control programme. Unfortunately, the official tuberculosis mortality rate does not give a true picture of the actual tuberculosis deaths as shown in a paper by Heng et al[1] in this Journal issue. The cause of death was certified to be due to tuberculosis in 111 cases which can be verified. Analysis of the case records showed that only 44% died of active disease, while 11% died of the late effects of the disease. In 45% of the cases, death was unrelated to tuberculosis. This pattern of over-certification of tuberculosis deaths has also been reported elsewhere[2-4].

Incorrect certification can occur for a variety of reasons. Certification of death in hospital is usually done by junior doctors who are inexperienced and may have difficulty in determining the main cause of death especially in patients with multiple pathology. Errors are more likely to occur when death certification has to be done after office hours by a doctor who may not be looking after the patient and the past clinical records and chest X-rays may not be available for reference. There is a tendency to attribute the cause of death to pulmonary tuberculosis whenever the cause of death is unclear but the patient has evidence of a chest X-ray abnormality and a past or present history of pulmonary tuberculosis. However, comparison with the previous chest X-rays would have shown that the radiological abnormality has remained stable for years; the negative sputum tests for acid fast bacilli would also indicate that the tuberculous lesion is inactive. Occasionally, a new lung opacity may be wrongly diagnosed to be due to relapse of pulmonary tuberculosis although the possibility of a concurrent pyogenic lung infection or malignancy has not been excluded.

The observation that over-certification of tuberculosis deaths is more prevalent among general practitioners compared with hospital doctors is not surprising as they are handicapped by the lack of information on the patient's recent or past medical condition. Many patients locally do not have a family physician and they have a tendency to consult different doctors when they are sick.

The present system of death certification does not provide information on whether deaths from tuberculosis were due to active disease or to the late effects of the disease. Death from active tuberculosis is of particular importance to the public health authorities because it is an indication that case finding and case holding have not been completely successful. On the other hand, the mortality from the late effects of tuberculosis will not change much in spite of the availability of modern highly effective regimens because the patients had been infected at an earlier period when case finding was less intensive and chemotherapy was not as effective and well accepted as in the present.

The authors have suggested a way to monitor and prevent errors in death certification. To be effective, any errors detected should be brought to the attention of the certifying doctor in the hospital within the shortest time, before he is transferred to another department. This can be achieved by making use of the mortality conference which is held weekly in the clinical departments. Instruction on the proper certification of death can be provided to the certifying doctor as well as other doctors in the department.

The importance of accurate death certification in epidemiology and medical audit should be emphasized and instruction on death certifcation should be reinforced during the general professional training of a hospital doctor or vocational training for general practice[5].

To improve the accuracy of death certification by general practitioners, adequate information on the patient's clinical condition especially if he has a terminal or progressive illness, should be given in writing to the patient's relative so that it can be shown to the general practitioner when he is called to certify the cause of death in the patient's home.

In the present study, 61% of deaths certified by general practitioners occurred within 3 months of discharge. If the patient has multiple diseases, the main disease causing deterioration of the patient's health should be mentioned. When pulmonary tuberculosis is also present, then it should be mentioned whether the disease is active or inactive on discharge and whether serious sequelae has developed from a previous infection.

There is a need to improve the quality of death certification among hospital doctors and general practitioners. This applies particularly to deaths attributed to tuberculosis.

Department of Tuberculosis Control
Tan Tock Seng Hospital
Moulmein Road
Singapore 1130

S K Teo, MBBS, MRCP, FCCP
Physician & Head

REFERENCES

1. Heng BH, Tan KK, Chan KW, Tan TH: An Evaluation of 1987 Tuberculosis Deaths in Singapore. Singapore Med J 1990; 31: 418-21.
2. Aoki M, Shimao T, Iwasaki T, Kino C, Shinamura K, Misawa H: Changing patterns of the causes of death of tuberculous patients. Bull Int Union Tuberc 1979; 54: 311-2.
3. Hong Kong Chest Service/British Medical Research Council. Survey of deaths in Hong Kong during a five-year period. Tubercle 1984; 65: 253-61.
4. Davis CE et al. Tuberculosis – Cause of Death in Antibiotic Era. Chest 1985; 88 (5): 726-9.
5. Joint Report of the Royal College of Physicians and the Royal College of Pathologists. Medical Aspects of Death Certification. J R Coll Physicians Lond 1982; 16(4): 206-18.