Notification of tuberculosis: how many cases are never reported?

Tower Hamlets is not the only London borough to report significant recent under-notification of tuberculosis (27%) (December 1992;47:1015–8). Hickman et al reported 26% under-notification of non-HIV associated tuberculosis and 63% under-notification of HIV related tuberculosis for the Riverside DHA for the period April 1990 to March 1991. Riverside have tightened procedures to reduce or prevent under-notification and have done so too. Correction of under-notification from these districts, and possibly others, may be contributing to the recent rise in tuberculosis notifications in England and Wales, partly sent to 1989. The role of pathology and microbiology services to supplement notification has been reported. An integrated and centralised tuberculous service for a district would overcome some of these problems, but it is easier to implement in a DHA or Trust without multiple units. In the Blackburn, Hyndburn and Ribble Valley DHA, served by two acute hospitals and one mental hospital, there is no undernotification because of our integrated system which has three key components:

1. There is agreement that all cases of adult or childhood tuberculosis of whatever type are treated by the two thoracic physicians, and children by the paediatricians, with agreed regimens.
2. All notifications for tuberculosis are made by the Chest Clinic.
3. Copies of all histology reports of definite or possible tuberculosis are sent to the thoracic physicians, as are details of all isolates of mycobacteria, before they are sent to the reference laboratory. Any patients not already known to the thoracic physicians are then seen automatically by them, and treated and notified if appropriate.

This system prevents non-notification and gives optimum management to patients with tuberculosis. It may be appropriate in the new purchaser/provider split for the purchasers to stipulate that the guidelines of the Joint Tuberculosis Committee, which include notification, be a condition of any contract. This would also require thoracic physicians to notify all cases. The elements recorded in the tuberculosis control are well described; it is their uniform and full application which is now required.

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AUTHORS’ REPLY
We thank Dr Ormerod for his interest in our study. It is significant that the incidence of undernotification in the UK and in the study by Hickman et al showed remarkably similar levels in two different areas. This level of undernotification is thus likely to be representative of the situation throughout the country and not just an aberrant result. Although Dr Ormerod says there is no undernotification in his area (and he may well be correct), he does not report that he has audited this as we have, and so we cannot be sure. It is also true to say that the situation we are reporting is now some three years old.

The system Dr Ormerod has instituted in Blackburn would pick up bacteriologically or histologically proven cases of tuberculosis, but not cases of tuberculosis treated purely on clinical grounds, nor does it address the problem of those patients found to have tuberculosis at a hospital or Coroners’ post-mortem examination.

While correction of undernotification may account for some of the apparent increase in local incidence of tuberculosis, we do not think this is the whole explanation as the rise in the number of cases of tuberculosis in Tower Hamlets is greater than that which would be explained by more efficient notification.

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Diagnosis of Pneumocystis carinii pneumonia in HIV antibody positive patients by simple outpatient assessment

We share the enthusiasm of Dr DE Smith and colleagues for methods that allow non-invasive investigation of pulmonary disease in individuals with HIV infection (December 1992;47:1015–8). They have proposed an algorithm for the diagnosis of Pneumocystis carinii pneumonia (PCP), with oxygen desaturation during exercise as a central component. This pragmatic approach to diagnosis is similar to one proposed previously in which measurement of carbon monoxide diffusion capacity (TLco) or alveolar to arterial oxygen tension gradient (P(A-a)O2) after exercise was used in place of exercise desaturation.

A reduction in TLco, an extremely sensitive though not specific indicator of acute PCP, is not included in Dr Smith’s algorithm and is the preferred method of non-invasive screening for PCP in our unit. In one study, TLco below 70% predicted a sensitivity of 92% and a specificity of 72% for acute PCP compared with 74% and 73% respectively for oxygen desaturation as reported by Dr Smith and colleagues. Measurement of TLco is readily available in most hospitals, inexpensive, quick to perform, and provides immediate results. In addition, measurement of TLco in individuals with HIV infection does not require an unwell patient to exercise, a factor that, in our experience, limits the usefulness of exercise oximetry, and it is of note that only 38% of patients receiving PCP were able to complete a 10 minute exercise test in Dr Smith’s study.

It is our practice to measure TLco on all HIV seropositive individuals at the time of the first positive HIV antibody test, and to repeat this measurement during the course of their HIV illness. This allows a documented fall in TLco, in the presence of new respiratory symptoms, to be investigated appropriately. Although we consider abnormal TLco to be superior to exercise induced oxygen desaturation in the respiratory assessment of seropositive individuals, the pulmonary manifestations of HIV infection are many and varied, with specific and increasingly effective treatments. Current non-invasive tests are therefore unlikely to obviate the need for definitive bronchoscopy, and we have a low threshold for offering bronchoscopy and lavage to our seropositive patients with suspected respiratory disease.

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AUTHORS’ REPLY
We agree that measurement of the diffusion coefficient for carbon monoxide (TLco) could replace exercise oximetry in the diagnostic algorithm we have proposed, but this test was not readily available in our hospital. Although TLco is sensitive it is non-specific with reduced levels seen in asymptomatic intravenous drug users and in HIV infected patients with other respiratory diseases. A previous study in this journal shows that a reduction in TLco failed to differentiate 13 patients with Pneumocystis carinii pneumonia (PCP) from 22 patients with other respiratory problems. The authors concluded that “the combination of lung clearance of 99m-technetium labelled and oxygen desaturation on exercise seemed to be the most useful screening test in selecting patients for further investigation for possible pneumocystis pneumonia”. Although it is true that a number of patients cannot tolerate exercise testing for a 10 minute period, 80% of patients in such a study who desaturated did so within the first three minutes of the test.

We believe that the use of this non-invasive test in selecting patients for further investigative work is likely to be more cost effective than bronchoscopy, and we would not treat patients with PCP who they could be treated for presumed bacterial chest infections and observed without having to subject them to further unnecessary investigations.

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