LETTERS

An integrated home oxygen service saves £130 000 per year on home oxygen tariffs

In February 2006 the Department of Health introduced a new home oxygen service with the aim of improving the assessment of patients on oxygen and allowing access to newer technologies such as ambulatory oxygen. Oxygen is provided following completion of a home oxygen order form and is allocated a predetermined tariff according to the delivery device and usage. In South East Essex there are currently 554 patients receiving home oxygen with an annual cost of £668 546.

In response to these changes, South East Essex PCT and Southend Acute Trust set up an oxygen implementation group leading to the establishment of an integrated home oxygen service. This service comprises four respiratory consultants, one respiratory physiotherapist and three respiratory nurse specialists (one of whom is based in the community and was the only new post). The role of this service is to identify patients requiring home oxygen, to provide formalised oxygen assessments and home or out-patient monitoring once oxygen is ordered, as well as ensuring that existing patients receiving home oxygen have the correct oxygen order for their needs.

The cost of home oxygen was highlighted by the home oxygen service. In order to investigate high oxygen order costs, 22 patients who were on a higher tariff were identified from the supplier monthly statement of December 2006 for review either by a respiratory consultant in outpatients, formal long-term oxygen treatment (LTOT) assessment or a home visit by a nurse specialist. Of these, 4 had the correct order, 3 no longer required home oxygen, 1 was unwilling to change his order and 14 had their order altered to a more appropriate usage requirement resulting in recategorisation to a lower tariff. This resulted in an annual saving of £76 993.

Over the following 6 months, during the course of routine monitoring a further 43 patients had their home oxygen order altered to reflect their actual oxygen requirements more accurately; 8 no longer required home oxygen and 35 were recategorised to a lower tariff with an annual cost saving of £52 819.

Increased awareness of the need to regularly re-evaluate patients on home oxygen therefore resulted in the recategorisation to a lower tariff of 65 patients at an annual cost saving of £129 812. A cost saving of £76 993 was made by targeting the 22 patients on the highest tariff out of a total of 554 patients on home oxygen.

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Early detection of cancer: lessons from lung cancer CT screening

Black *et al*¹ reviewed 12 studies of CT screening for lung cancer published up to 2004 and concluded that there is insufficient evidence that CT screening might be clinically effective in reducing mortality from lung cancer.

This study was published immediately after two discordant studies by Henschke *et al*² and Bach *et al*.³ The first study, in spite of the lack of total or disease-specific mortality rates for the screened population, concluded that low-dose CT screening could lead to a therapeutic strategy that resulted in a 10-year survival of 88% for patients with stage I disease.² The second, in line with Black *et al*,¹ concluded that there is no evidence that CT screening reduces deaths from lung cancer.³ In this study, despite annual screening, most of the individuals who died from lung cancer did not have their cancer detected at an early stage when cure was possible. However, the survival of patients with stage I disease was equivalent to the survival in the study by Henschke *et al*,² but the proportion of patients with stage I disease fell dramatically after the second year and the cumulative mortality from lung cancer at 5 years was very close to that expected without screening.

A reasonable explanation is that radiological screening can detect early stage, slow growing or indolent disease, but is unable to prevent more aggressive and early metastatic lung cancer. Indeed, autopsy studies recognise inconsequential lung cancers.⁴ As a possible consequence, some individuals—even those enrolled in screening trials—will live and die with their lung cancer.

The major finding of these studies is that the natural history of lung cancers detected by CT scanning is unknown. According to the current view on the carcinogenesis of non-small cell lung cancer, it cannot be assumed that the biological behaviour of cancer parallels the anatomical size of the tumour or that small lesions are equivalent to early stage disease. No data are available to confirm that a primary lung tumour of 5 mm has a significantly better prognosis than tumours of 10 mm or even 30 mm.⁵ In different studies, approximately 60% of patients with clinical (radiographically detected) stage I disease (<3 cm) died from lung cancer within 5 years despite appropriate treatment.⁶ This suggests that a high percentage of patients have disseminated occult disease at the time of presentation.

With newer and more sensitive methods of detection, sites of isolated tumour cells and

micrometastases may now become apparent. Indeed, clinical studies have confirmed that patients with small tumours can harbour malignant cells in lymph nodes of normal appearance detectable only by PCR assay.⁷ Other investigations have found tumour cells or circulating endothelial progenitor cells in the peripheral blood and bone marrow of patients with lung cancers of all sizes and stages.⁸

As the debate on lung cancer screening continues, it appears that we must learn more about the biology of this disease and integrate this knowledge with early diagnostic strategies including genomics and/or proteomics.

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Gene expression of IL17 and IL23 in the lungs of patients with active tuberculosis

Immunity to tuberculosis is dependent on type 1 responses (interferon (IFN) γ , interleukin (IL)12, tumour necrosis factor (TNF) α) but these do not provide a complete