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EDITORIAL

Early lung cancer detection: the role of primary care

Lung cancer remains one of the most significant challenges for health care in the UK. Despite advances in treatment, survival from this disease in the UK has improved very little, and still compares unfavourably with survival rates in the USA and in much of Europe. If we are to tackle this disease more effectively it is likely that we will need an approach which combines primary prevention, early detection strategies, and improved treatments.

In this issue of the Primary Care Respiratory Journal Read et al. review current evidence on early detection of lung cancer [1]. It's not an overly optimistic picture; lung cancer typically presents late in its course, and the symptoms at an early stage are difficult to detect. While new diagnostic strategies are emerging, we still lack the evidence to screen for lung cancer in the population. As Journal readers will be aware, general practitioners (GPs) face considerable challenges in making a diagnosis of lung cancer — symptoms are generally non-specific, and can be attributed to many other common causes such as chronic bronchitis or asthma. Primary care has the potential to influence early detection in four major areas: primary prevention (principally smoking cessation); encouragement of early presentation; early symptom-based diagnosis; and influencing future possible screening strategies.

Primary prevention

Tobacco smoking is the most important risk factor for the development of lung cancer. It causes 90% of lung cancers in the UK [2]. Although the prevalence of smoking has fallen over the last couple of decades [3], approximately 25% of adults are still smokers and about 450 children start smoking each day in the UK [4].

Primary care plays an important role in providing guidance and support to patients to stop smoking. GPs can, for example, reduce smoking rates by providing appropriate advice [5]. Furthermore, about 25% of lung cancers in never-smokers are associated with exposure to passive smoking [6]. Smoking bans in all enclosed spaces in Ireland and Scotland have proved successful, and can complement other efforts from the public health and primary care workforce.

Minimising patient-related delay

Although there is no direct evidence that early diagnosis would reduce mortality from lung cancer, there is a strong possibility that a shift away from the current pattern of late presentation, with a corresponding increase in potentially curative treatments such as lung resection, could impact favourably on survival [7]. Hence, reductions in delay have become a policy priority [8].

Relatively little is known about the reasons why patients delay consulting with their symptoms. It appears that individuals frequently fail to recognise symptoms that they've experienced over many months prior to their eventual diagnosis as being serious or 'warranting medical attention' [9,10]; symptoms, even when severe, are typically attributed to more common, everyday causes. There is sometimes a 'nihilistic' attitude to lung cancer — there is a strong perception in the community that lung cancer is 'incurable' with little point in trying to identify it early [11]. These attitudes imply an important educational role for primary care; patients need to be

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encouraged not to ignore symptoms of potential significance.

Early detection based on symptoms

The majority of lung cancer patients in the UK are diagnosed following presentation in primary care [12]. Typically, though, diagnosis is made through a variety of other routes as well: these include accident and emergency departments and hospital inpatient referrals [10]. The symptoms of lung cancer pose significant diagnostic challenges for primary care teams; it is very difficult to distinguish between those respiratory symptoms which carry increased risk of lung cancer and those which do not. The symptoms of lung cancer such as cough, haemoptysis and weight loss, are common in primary care populations, and the average GP will see less than two cases of lung cancer per year. In addition, many symptoms are experienced by patients in the months leading up to diagnosis and they are often non-specific. Even for an alarming symptom such as haemoptysis, which is commonly reported as a first symptom by lung cancer patients [13], there are several common causes including chest infections. Other symptoms such as weight loss, cough, dyspnoea and chest pain, while important components of the history, are even less specific for lung cancer [14].

Whilst some progress has been made in attaching predictive values to symptoms, and groups of symptoms, as a guide to decision making [15], we are some way off having precise diagnostic algorithms to guide investigation and referral decisions with specific patients. Most guidelines highlight the importance of change in patients' symptoms [16]. Existing cancer referral guidelines typically recommend basic investigations and referral for persistent and unexplained symptoms [17-19] — but much still relies on clinical judgement. Further, despite the availability of guidelines, there is potential to reduce delays in referral from primary to secondary care [20,21], and this is an important ongoing challenge.

Screening for lung cancer

As Spiro and colleagues indicate [1], there is renewed interest in the prospect of early detection of lung cancer through screening. More will be known about the potential of spiral CT scanning in early, asymptomatic diagnosis, once major screening trials have reported [22]. If mortality reductions are identified, it is likely that screening will need to be part of a wider range of strategies. Further, in common with other forms of screening, primary care will continue to play a vital role in promoting uptake and providing information.

Conclusion

Primary care continues to have an important gatekeeper role in lung cancer investigation and diagnosis, and needs to help co-ordinate the complex diagnostic pathway for this disease. Importantly, it is necessary to maintain a high index of suspicion in high-risk patients, and to monitor symptom changes (such as extra symptoms, changes in frequency or severity etc) in patients with existing lung disease. This way, delays related to primary care can be minimised.

There is also an important research agenda; lung cancer has, in the past, had relatively little research investment [23]. This has prompted the National Cancer Research Institute to undertake a major strategic review of lung cancer research and the report has now been published [24]. The report identifies the reas for targeted funding and new priorities for research investment, and is very welcome indeed. In their review [1], Spiro et al. describe a new trial, funded by Cancer Research UK, which will examine the effect of a surveillance strategy comprising sputum cytology/cytometry, annual CT scans and fluorescence bronchoscopy in bringing forward the time of diagnosis in a high-risk population. While mortality reductions need to be demonstrated in screening trials, the ability of a testing regime to bring about earlier diagnosis is, of course, a prerequisite. It is vital that these kinds of studies progress, ideally in tandem with trials of primary prevention and early symptom-based diagnosis.

Hopefully in the near future we will have the evidence to effect strategies which can make an impact on survival — whether through smoking cessation, uptake of screening, or astute, early diagnosis, primary care will have a vital role in these strategies.

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