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The health care epidemiology of lung cancer

Robert A Haward and David Forman

Introduction

The publication by the Department of Health in 1995 of *A Policy Framework for Commissioning Cancer Services* marked a watershed in English cancer policy. For the first time there was a clear policy framework for the delivery of cancer services. This covered all sites of cancer and all parts of the health care system, encompassing primary care, local hospitals and tertiary centres. One of the main themes of this policy was the need to ensure all patients had access to specialists in the disease in question, and that specialists with interests in particular cancers should work effectively together in multidisciplinary clinical teams. It must be appreciated that this policy marked a radical departure from previous practice in most of the country. The objective of improving clinical organisation and practice was based on a review of evidence about the way that care had previously been organised (Selby *et al.* 1996).

For lung cancer, the subsequent national guidance *Improving Outcomes in Lung Cancer* (Department of Health 1998) made it clear that the necessary specialist teams would be in cancer units and in cancer centres (in respect of their local service), with access to tertiary services required for thoracic surgery and radiotherapy. The guidance identified the key changes required to implement modern multidisciplinary team working. It enabled local services to be appraised against requirements set out in the guidance and allowed local priorities for service development to be accurately determined.

Population-based evidence about patterns of cancer care, and their relationship to outcomes, provides an important means of assessing past services and over time will enable the monitoring of changes in the processes and outcomes of new patterns of service delivery. Studies based on the analysis of data from cancer registries, are potentially more reliable than institutional studies in revealing such patterns of service delivery, precisely as a result of their population-based focus. They are, therefore, less likely to omit patients whose care is atypical, based outside the hospital system, or who die before care is initiated. The main weaknesses are that information about clinical case-mix and the nature or place of treatment is often limited. Not all registries, for example, record relevant information on access to specialised care and specific treatment modalities. In lung cancer in particular, the poor prognosis for most patients, with the resulting short survival after presentation, makes rapid access to care critical to any attempt to improve outcomes.

Table 4.2 Lung cancer: TNM staging and resectability

	T ₁ N ₀	IA	}	[resectable]
	T ₂ N ₀	IB	}	[resectable]
	T ₁ N ₁	IIA	}	[resectable]
	T ₂ N ₁	IIB	}	[resectable]
	T ₃ N ₀			
Any	T ₃ N ₁ T ₃ N ₂	IIIA	}	[mediastinal assessment etc]
Any Any	T ₄ N ₃	IIIB	}	[not operable]
	M	IV	}	[not operable]

Table 4.3 Lung cancer: TNM staging and survival

		%					%		
		1yr	2yr	5yr			1yr	2yr	5yr
c	IA	90	80	60	p	IA	95	90	70
	IB	70	50	40		IB	90	80	60
c	IIA	80	50	30	p	IIA	90	70	60
	IIB	60	40	20		IIB	80	70	60
	(T ₃)	60	40	20		(T ₃)	80	60	40
c	IIIA	50	30	10	p	IIIA	60	40	20
c	IIIB	30	10	5					
c	IV	20	5	1					

Adapted from Mountain (1997) (with permission)

c = clinically staged; p = pathologically staged

classification was for these to be considered as increasing the T stage by 1 in the first instance and that they were T₄ tumours in the second. A recent review of 568 patients, however, has suggested that the overall survival after resection of tumours together with satellite nodules in either lobe is about 20 per cent at five years (Urschel *et al.* 1998). The author suggests that, as it is likely that the survival of patients with satellite nodules in the primary lobe alone would be better than this, and that since these lesions are resectable, a T₄ designation may not be appropriate. This discussion illustrates the general point that the staging classification is supported by very adequate evidence in general, but more data is required to clarify treatment decisions in some sub-sets of patients.

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