

hospital intubation without drugs was hopeless,³ but we found that 8% of patients survived. The number was small, with the lower limit of the confidence interval of 0.2% just equal to the mean survival reported by the helicopter service.

Anaesthesia and intubation can be complicated by head and facial injuries, cervical fractures, risk of oesophageal intubation, aspiration, circulatory deterioration, and increased intracerebral pressure. The environment out of hospital is different from in hospital and support and resources are limited. We question whether anaesthesia and intubation of trauma patients can be mastered and routine be maintained by ambulance personnel.

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Risk of adenocarcinoma in Barrett's oesophagus: population based study

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Endoscopic surveillance of Barrett's oesophagus is now routine.¹ Cost effectiveness depends on the risk of oesophageal adenocarcinoma.² The magnitude of this risk is unclear because most previously published studies were small and inconclusive.³ Except for one,⁴ these studies were not population based but investigated patients at one or more centres. Selection bias or the effect of common losses to follow up were not assessed.⁵ We investigated the risk of oesophageal malignancy in a large cohort of unselected patients with Barrett's oesophagus in Northern Ireland, where all incident cancers are routinely identified.

Participants, methods, and results

We examined the pathology reports relating to all oesophageal biopsies in Northern Ireland between January 1993 and December 1999. We included every adult identified within Northern Ireland (population 1.7 million) as having oesophageal columnar epithelium. We excluded biopsies taken at the oesophago-gastric junction.

We defined Barrett's oesophagus as the presence of columnar metaplasia in the oesophagus irrespective of whether Barrett's mucosa was reported (although we used this fact to further classify the biopsies as "macroscopic Barrett's oesophagus" or otherwise). We did not use data on segment length because it was often absent from reports. We subdivided biopsies finding Barrett's oesophagus further if the pathologist specifically stated that specialised intestinal metaplasia or goblet cells were definitely present or absent. We excluded malignant biopsies.

We identified patients in the cohort and followed them up for death and oesophageal malignancy (oesophageal adenocarcinoma and histologically unspecified oesophageal carcinomas or malignancies) until the end of 2000 by matching with death records from the Registrar General's Office and the Northern Ireland Cancer Registry's database of incident cancers.

We excluded oesophageal malignancies diagnosed within six months of the initial biopsy. We identified all patients in Northern Ireland with Barrett's oesophagus who had an oesophagectomy or ablative treatment for high grade dysplasia between January 1993 and December 2000. We calculated person years of follow up until diagnosis of the malignancy, death, or 31 December 2000. We estimated confidence intervals from the Poisson distribution.

Between 1993 and 1999, of 15 670 oesophageal biopsies, 4955 (from 2969 patients) met our criteria for Barrett's oesophagus (table). The mean follow up was 3.7 (range 1 to 8) years, with 11 068 person years of follow up. We found 29 oesophageal malignancies in the cohort. Four patients had an oesophagectomy for high grade dysplasia and two had ablative laser treatment. Oesophageal malignancy was 0.26% (0.18% to 0.38%) a year overall and 0.4% (0.26% to 0.59%) a year for patients with specialised intestinal metaplasia. The malignancy rate in men was 2.5 times that in women. Only for men older than 70 with specialised intestinal metaplasia was incidence greater than 1% per year.

Comment

Patients with Barrett's oesophagus are at low risk of oesophageal adenocarcinoma, and this risk is almost exclusively in patients with specialised intestinal metaplasia. Surveillance of patients with Barrett's oesophagus at a risk of malignant transformation of 1% per year may be cost effective,² but only men aged 70 or more are at this risk, and limiting surveillance to them would miss two thirds of cancers. The length of follow up in our study was brief, but up to eight years after diagnosis we found no increased risk of malignancy with time (data available from authors).

Robust methods for stratifying risk and targeting surveillance in Barrett's oesophagus are needed. Although we did not use specific protocols for

Oesophageal malignancies (adenocarcinoma and histologically unspecified carcinoma or malignancy) in a cohort of patients with Barrett's oesophagus in Northern Ireland, 1993-9

	No of patients	No of oesophageal malignancies	Follow up (person years)	Incidence of oesophageal malignancies per 100 person years of follow up (95% CI)
All patients	2969	29	11068	0.26 (0.18 to 0.38)
Men	1701	22	6230	0.35 (0.21 to 0.52)
Women	1268	7	4838	0.14 (0.06 to 0.30)
Specialised intestinal metaplasia:				
Present	1670	26	6517	0.40 (0.26 to 0.59)
Absent	545	1	1730	0.06 (0 to 0.32)
Unknown	745	2	2821	0.07 (0.01 to 0.26)
Macroscopic Barrett's oesophagus:				
Present	1929	22	7470	0.29 (0.18 to 0.44)
Present with specialised intestinal metaplasia	1300	21	5183	0.41 (0.25 to 0.62)
Dysplasia:				
High grade	19	3	64	4.69 (0.97 to 13.7)
Mild or moderate	171	7	648	1.08 (0.43 to 2.23)
Patients with specialised intestinal metaplasia				
Men aged (years)				
<50	243	1	965	0.10 (0 to 0.58)
≥50	789	19	2979	0.64 (0.38 to 1.00)
≥60	547	16	2030	0.79 (0.45 to 1.28)
≥70	269	9	882	1.02 (0.47 to 1.94)
≥80	76	3	199	1.51 (0.31 to 4.42)
Women aged (years)				
<50	71	0	297	0 (0 to 0.24)
≥50	567	6	2275	0.26 (0.1 to 0.57)
≥60	467	6	1826	0.33 (0.12 to 0.72)
≥70	305	3	1178	0.25 (0.05 to 0.74)
≥80	104	0	360	0 (0 to 1.03)

oesophageal biopsy, because the data are from routine clinical practice, our findings may have more relevance for standard care than previous studies.

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Contributors: LM had the idea for the study, constructed the register, analysed the data, and wrote the initial draft. AG, PW, BJ, and JS, designed the study and interpreted the data. IMLM helped construct the register. All authors commented on draft manuscripts. LM is guarantor.

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One hundred years ago

Wage-earning school children

A very interesting report on wage-earning school children has been prepared for the Manchester Education Committee. Inquiries have been made from the head teachers of the 159 elementary schools in the city on the employment of children out of school hours. Over 3,000 school children are at work, and their hours of labour range from a minimum of 1 a week to a maximum of 68¼. More than 200 work from 30 to 40 hours per week, about 64 from 40 to 50 hours, 9 from 50 to 60 hours, and 1 child of 12 years is reported as working on a farm for no fewer than 68¼ hours per week. The occupations in which the majority of the children are engaged, and those working the longest hours, are in vending and distributing newspapers, in barbers' shops, errand boys in retail shops, in the milk business, and to a lesser degree in domestic work of various kinds. One child of 6 years of age is said to be engaged 20 hours a week in selling newspapers.

Amongst about 20 children of 7 years old 1 is employed 27 hours a week, also in the sale of newspapers, and another runs errands for 26 hours a week. Other children of this age work 17, 12, and 8 hours and under. There are from 40 to 50 children of 8 years of age working for 25, 24, and 21 hours and less. There are about 120 children of 9 years of age engaged, and 1 of them at least works 29 to 30 hours a week. The rest of the children are from 10 to 13 years of age. Curiously enough the number at 14 years of age is inconsiderable. The wages of the children do not seem to bear any proportion to the number of working hours. The boy who is said to work on a farm for 68¼ hours a week receives 3s. 6d. and his keep, but finds his own shoes. The sale of newspapers appears most profitable, and some of the children's earnings range from 7s. to 11s. per week.

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