and no increase in survival rates at six months. The main delay occurred between diagnosis and treatment and this has remained unacceptably prolonged at over six weeks.

We feel the overall value of the guidelines is unclear at present. Larger studies are needed to assess whether the reductions in delays achieved without improvement in outcomes are sufficient to justify the service costs which are likely to increase with greater uptake of the guidelines.

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Audit of proton pump inhibitor (PPI) prescribing: are NICE guidelines being followed?

Proton pump inhibitors (PPIs) have revolutionised the treatment of peptic ulcer disease,[1] and although considered effective and safe they should be used judiciously. In 1998, PPI prescribing accounted for £291 million of the NHS drug budget. Since the establishment of the National Institute for Clinical Excellence (NICE), guidelines on PPI prescribing have been introduced.[2] The introduction of these guidelines, however, appeared to have little impact on clinical practice, so an audit of PPI treatment evaluating patients admitted on the acute medical take was undertaken. The study was conducted prospectively for a period of six months. A clinical pharmacist was involved who reviewed prescribed medication particularly in cases where the indication was not apparent.

One hundred patients (49 male) were identified who were prescribed a PPI either by their GP or a hospital physician. A range of PPIs were used: lansoprazole (75%), omeprazole (14%), rabeprazole (6%) and pantoprazole (5%). Fifty-three per cent of prescriptions were initiated by hospital physicians of whom 37% were from gastroenterologists.

Table 1. Times to first hospital visit, investigation and treatment for patients with oesophago-gastric cancer presenting as outpatients to Nottingham University Hospital.

	April 1999 – 2000 (before guidelines)					April 2000 – June 2001 (after guidelines)				
	Routine (*n* = 19)	Urgent (*n* = 41)	Time for 90% of patients	Total (*n* = 60)	IQR	Routine (*n* = 11)	2 Week (*n* = 41)§	Time for 90% of patients	Total (*n* = 52)	IQR
Time (median days) from date of GP referral:										
– to first hospital visit	80	15	59	26	11–61	44**	7**	18	8*	6–19
– to first endoscopy	86.5	22	82	28	15–83	68	7*	32	8.5*	6–28
– to diagnosis	90	23	90	36	18–89	68	10*	47	11*	7–32
– to positive biopsy	90.5	24	104	42	18–90	71	11*	49	18*	10–37
– to initial treatment***	147 (15)	77 (30)	215	105	63–150	96 (7)	56** (28)	94	64*	43–87
Numbers having surgery	12	14		26	(43%)	5	16		21	(40%)
Numbers unsuitable for any active treatment with curative intent	4	23		27	(45%)	6	19		25	(48%)
Numbers alive 6 months after referral	16	25		41	(68%)	9	19		28	(54%)
Site and histological type:										
Gastric: adenocarcinoma	15	9		24		4	16		20	
other histology	–	–		–		2	–		2	
Oesophageal: adenocarcinoma	3	23		26		5	16		21	
squamous	1	7		8		0	8		8	
other histology	0	2		2		0	1		1	
	19	41		60		11	41		52	

* p <0.001 , ** p <0.05 Mann-Whitney test, in comparison with same type of referral in April 1999 – March 2000.
*** Figures in parentheses refer to numbers having any specific treatment (surgery, chemotherapy or radiotherapy).
§ Includes four patients referred as urgent cases but not using the faxed 2-week wait form.
IQR = interquartile range.

Table 1

Indication	Total (n = 100)	Clinically appropriate indication		Appropriate dosage/length of treatment		NICE guidelines followed (%)	
		Yes	No	Yes	No	Yes	No
Non-ulcer dyspepsia	31	31		3	28	3	28
Chronic peptic ulcer	18	18		10	8	2	16
Gastro-oesophageal reflux disease (GORD)	14	14		7	7	4	10
Unknown	13	0	13	0	13	0	13
Hiatus hernia with reflux	9	9		0	9	0	9
Non-steroidal anti-inflammatory (NSAID) prophylaxis	8	8		4	4	4	4
Non-cardiac chest pain	3	3		0	3	0	3
Acute upper gastrointestinal bleed	3	3		3	0	0	3
Barrett's oesophagus	1	1		1	0	0	1

The majority of PPI prescriptions within secondary care were from non-gastroenterologists. Lansoprazole and omeprazole accounted for 89% of PPI prescriptions, reflecting their presence on the hospital formulary. Median treatment days were 365 (range 2–2,555). From Table 1 above, it is apparent that most PPIs were clinically appropriate. However, a significant number of patients were not on an appropriate dose or length of treatment. Thus it is not surprising that NICE guidelines were followed in only 13 patients (13%). Another reason for this low adherence may have been that clinicians disagreed with certain aspects of NICE recommendations. For example, stepping down PPI therapy to the lowest dose in patients who have dyspepsia is reasonable. However, this is not suitable in patients who have had a complicated peptic ulcer,[3] severe gastro-oesophageal reflux disease (GORD)[4] or Barrett's oesophagus.[5]

Whilst the above data only give a 'snap shot' of true prescribing attitudes, the trends seen are likely to be representative. What is worrying is that 13% of PPIs were prescribed for an inappropriate clinical indication, and 72% were for an incorrect dose and length of treatment. Thus, it is apparent that NICE guidelines at present are not being followed, calling into question their place in clinical practice, problems with implementation and lack of enforcement. It would be interesting to see if similar findings are reciprocated in other regions. Part of the NICE guidance (Clinical Audit Advice), does require individual departments to monitor its own prescribing of PPIs. These recommendations are due to be updated in June 2003 and we plan to re-audit thereafter.

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