

gestation and were therefore potential candidates for chorionic villus sampling. Eighteen of these patients had a non-viable pregnancy at booking and seven aborted spontaneously before testing, giving a loss in this group of 26%. Among the 59 patients booking after more than 11 weeks' gestation there were only three losses before testing leaving a total of 129 patients with continuing pregnancies, to whom tests were offered.

The table shows the uptake of prenatal diagnosis, with a total of 105 patients (81%) electing to be tested. Chorionic villus sampling was successful in achieving a diagnosis in 21 of 23 patients tested, but one patient aborted a normal fetus four weeks after an uncomplicated procedure. Two chorionic villus sampling procedures failed to obtain an adequate sample; one of the patients aborted five days afterwards with ruptured membranes and the other delivered normally after an uncomplicated amniocentesis. The 82 patients electing amniocentesis all obtained a result after the first tap and none subsequently aborted.

Tests chosen by older mothers with continuing pregnancies (figures are numbers (percentages) of mothers)

	Gestation at time of booking		Total
	<11 ^w	≥11 ^w	
No test	12 (16)	12 (21)	24 (19)
Chorionic villus sampling	23 (32)	23 (18)	23 (18)
Amniocentesis	38 (52)	44 (79)	82 (64)
Total	73 (100)	56 (100)	129 (100)

Discussion

The uptake of amniocentesis at University College Hospital increased steadily from 32.2% in 1980 to 63.1% in 1984.⁶ This trend is almost certainly due to increased public awareness of the availability of prenatal diagnosis. Since the introduction of the clinic, however, the uptake of prenatal diagnosis has suddenly increased to 81.4%, which compares favourably with the results reported from other countries reviewed by Baird *et al.*⁹ Whether this effect is due to the clinic or the availability of earlier diagnosis is uncertain, but it is pertinent to note that the uptake of amniocentesis in this series (63.6%) is very similar to that in 1984.

A high proportion of non-viable pregnancies was diagnosed at the booking visit, especially in patients of less than 11 weeks' gestation. Older women have an increased risk of spontaneous abortion,¹⁰ and

diagnosis by ultrasound before booking at the antenatal clinic at least saves patients the emotional trauma of unnecessary preparation for hospital care and allows them the choice of being admitted for evacuation of the uterus.

Perhaps the major problem of introducing chorionic villus sampling into the screening programme for older women is that many patients are not seen early enough in pregnancy. Only 98 (62%) of our patients were seen at less than 11 weeks' gestation despite their being a relatively high risk group for other obstetric complications as well as for a fetus with Down's syndrome. Awareness among general practitioners that diagnosis during first trimester is possible should help to increase its availability to the patients, and this in turn may increase the proportion of patients electing to be tested. It is also essential at this stage that chorionic villus sampling should be properly evaluated against amniocentesis,¹¹ and early referral of patients will help this to be done quickly and efficiently.

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SHORT REPORTS

Public awareness of testicular cancer and the value of self examination

Early presentation of cancer of the testis is an important factor in the selection of treatment and prognosis.¹ Poor health education in some patients is thought to contribute to their undue delay before seeking medical advice.² We report a survey of public attitudes to the disease.

Subjects, methods, and results

A postal questionnaire was sent to 500 men aged 21 to 65, selected on the basis of a better education and higher socioeconomic state than the public at large. Analysis was performed on achieving a 79% response rate (n=395). The table summarises the results.

Nearly one third of respondents (126; 32%) were unaware that men may get cancer of the testicle, and 342 (87%) did not know the age group affected. Of the latter, 182 (46%) admitted no knowledge and 160 (41%) considered it a cancer of old age. Questioned specifically about the 15-40 year age group, only five respondents (1.3%) knew that it was a common type of tumour between these ages, 22 (6%) were partially correct, but 367 (93%) were unaware of its relative prevalence at this age. Concerning possible symptoms or signs, 77 respondents (19%) suggested a lump or swelling as an important finding. A further 13 (3%) reported other correct features but not a lump. Most (284; 72%) admitted to

having no knowledge of possible symptoms, and 18 (5%) responded with various incorrect answers, such as problems with potency or micturition. Only 18 respondents (5%) thought testicular cancer curable in 75-100% of cases. A further 38 (10%) considered that half could be cured, but 336 (85%) of those questioned were not aware of the real cure prospects, including 49 (12%) who thought that treatment would be unsuccessful. A testicular self examination procedure was unknown to 365 (92%) of the men, and only 5 (1.3%) performed the examination regularly. A total of 324 men (82%) had never examined their testicles in a formal manner. Finally, 357 men (90%) confirmed that they would be interested in more information about cancer of the testis.

Public's knowledge of testicular cancer and self examination of testis (395 respondents). Figures are numbers (percentages) of respondents

Knowledge	Unaware			Total
	Aware	Admitted no knowledge	Misinformed	
Testicular cancer may occur	269 (68)	126 (32)		126 (32)
Age group at risk	52 (13)	182 (46)	160 (41)	342 (87)
Possible symptoms	90 (23)	284 (72)	18 (5)	302 (76)
Cure prospects	56 (14)	289 (73)	47 (12)	336 (85)
Testicular self examination*	29 (7)	365 (92)		365 (92)

*Five men (1.3%) performed self examination regularly.

Comment

The survey clearly disclosed widespread public ignorance of the elementary facts relating to testicular cancer. Hence, not surprisingly, most of the respondents had never heard of a self examination procedure and only five men (1.3%) examined themselves regularly. The biased nature of the study group in favour of better education highlights the findings. We should reasonably expect a better appreciation of health matters in these men than in the general population.

The positive aspects of the results indicate the way for future action. The affirmed interest by nine out of 10 men for more information assures any prospective health campaign of a receptive target group. The excellent cure prospects in testicular cancer will allow an education programme to be conducted in a very open manner; this does not apply to tumours of other sites. On the basis of these and more extended results a national publicity campaign is now under way by the Irish Testicular Tumour Registry.³

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Smoking and colonic mucus in ulcerative colitis

Patients with ulcerative colitis tend to be non-smokers,¹ and it has been suggested that smoking may protect against the disease.² Colonic mucus in ulcerative colitis has been shown to be qualitatively and quantitatively abnormal,³ and cigarette smoking is known to produce hypersecretion and modification of respiratory mucus by systemic as well as local effects.⁴ We have therefore investigated colonic mucus production in vitro in patients with ulcerative colitis and assessed the possible influence of smoking.

Patients, methods, and results

Patients attending for routine colonoscopy answered a detailed questionnaire which included details of smoking habits and other relevant social and clinical data. Patients were then divided into a group with ulcerative colitis and a "control" group (comprising 63 subjects with diverticular disease or irritable bowel syndrome, 18 with colonic carcinoma, and 40 with colonic polyps). Clinical diagnosis was confirmed by independent histological examination of fixed biopsy material.

The control group contained 70 non-smokers and 51 current smokers (42%), while the ulcerative colitis group contained 71 non-smokers and 11 current smokers (13%), emphasising the infrequency of smoking among patients with ulcerative colitis.

Biopsy specimens were obtained from the descending colon (adjacent to the site used for histological diagnosis) and, using established tissue culture techniques, incubated in Roswell Park Memorial Institute culture medium 1840 containing 10 mg fetal calf serum per ml, 100 µg gentamicin per ml, and 1.25 µCi (46.2 kBq) D-[1-³H]-glucosamine hydrochloride (specific activity 2.2 Ci (81.4 GBq)/mmol) at 37°C in a mixture of 5% carbon dioxide and 95% air for 24 hours. Glucosamine is incorporated into the carbohydrate chains of the newly synthesised mucus glycoproteins. After tissue culture the specimens were homogenised and an aliquot of the homogenate assayed for total protein concentration by a modified Lowry method. The mucus glycoproteins were extracted by precipitation with trichloroacetic acid and phosphotungstic acid.⁵ The resultant protein and glycoprotein pellet was solubilised and synthesised mucus quantified by liquid scintillation counting of the newly incorporated tritiated glucosamine. After extensive dialysis to remove unincorporated label the culture medium was precipitated and counted in the same way. The results from the biopsy and medium fractions were combined to give total mucus glycoprotein production.

Compared with the controls incorporation of tritiated glucosamine was significantly less ($p < 0.05$) in patients with ulcerative colitis (table). In the non-smoking patients the total mucus production was significantly less ($p < 0.05$) than in non-smoking controls, but there was no difference between the ulcerative colitis patients who smoked and smoking controls. Smoking had no apparent effect on control patients.

Total glycoprotein production (dpm/mg) biopsy protein $\times 10^{-3}$. Values are means (standard errors in parentheses)

	All patients	Non-smokers	Smokers
Controls	152.6 (11.1) [n=121]	151.7 (27.3) [n=70]	146.4 (16.3) [n=51]
Ulcerative colitis	117.6 (10.1)* [n=82]	112.1 (10.2)† [n=71]	153.4 (35.6) [n=11]

*Significantly less than controls (Mann-Whitney U test: $p < 0.05$).

†Significantly less than non-smoking controls (Mann-Whitney U test: $p < 0.05$).

Comment

Mucus is an essential component of the intestinal mucosal defences. The colonic mucus of patients with ulcerative colitis is structurally altered and may be defective, possibly by not possessing the functional integrity for complete epithelial protection. Incorporation of glucosamine into newly synthesised glycoprotein is a well established procedure for assessing mucus biosynthesis in vitro.⁵ In our study patients with ulcerative colitis showed reduced glucosamine incorporation into colonic mucus compared with controls, and ulcerative colitis patients who did not smoke showed reduced mucus production compared with non-smoking controls. Ulcerative colitis patients who smoked, however, had mucus production similar to that of all control patients.

The increased mucus production seen in colitic patients who smoke may be important in increasing the quantity and improving the quality of the mucosal barrier and may be a factor in explaining how cigarette smoking, or the use of nicotine, might protect against ulcerative colitis, as has been suggested.²

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Treatment of functional abdominal pain by transcutaneous electrical nerve stimulation

Functional abdominal pain may be defined as pain for which no structural, biochemical, or infective cause can be determined. Transcutaneous electrical nerve stimulation has been used for years to alleviate chronic pain,¹ but to our knowledge this is the first report of its use for the relief of functional abdominal pain.

Patients, methods, and results

Twenty nine patients with intractable abdominal pain diagnosed as functional in a gastroenterological clinic by an appropriate history² with normal findings on physical examination, sigmoidoscopy, and investigations (full blood count, sedimentation rate, serum urea and electrolyte concentrations, liver function values, and barium enema as a minimum) were treated with transcutaneous