early hours of the morning, five hours after taking part of a last feed. Nine children were seen by a doctor at home, two of them on two occasions and one three times but never by the same doctor. Nine of the 13 contacts were made at a time when the general practitioner was shown scattered petechiae or a more confluent haemorrhagic rash. At no consultation was the correct diagnosis made, and three of these contacts did not result in admission or the giving of antimicrobial treatment, as the child did not appear unduly ill. On two of these latter occasions, the family doctor specifically noted that there was no neck stiffness. At the case discussion doctors invariably stated that they had never seen a similar rash before and therefore did not realise its importance.

Seven of the nine children who died in hospital had a typical haemorrhagic rash by the time of admission, and, although all were shocked on arrival and needed urgent resuscitation, only three had been rushed to hospital by car. The others had an average delay of 65 minutes while an ambulance was called and reached hospital. In relation to the rapidity of development of the illness there was often a long interval between the onset of the rash and admission to hospital: in four cases the interval was six hours.

In two cases junior hospital doctors failed to diagnose meningococcal infection after admission to hospital because they had not seen such a rash before and therefore started inappropriate treatment. In one case the correct diagnosis was delayed for one hour and in the other for three hours.

Discussion

The haemorrhagic rash, a sign of intravascular coagulation, is the commonest single aid to diagnosing meningococcal infections,[4] although it is not pathognomonic of the organism. In this series the importance of the rash was not appreciated before admission or, on two occasions, after admission because the doctors had not seen a similar rash. Failure in recognition caused delay in the start of appropriate treatment; all the children were shocked by the time of admission.

The gravest prognostic sign is the onset of shock,[2] and antimicrobial therapy needs to be given before its onset to be effective. Death may occur within a few hours of the onset of symptoms, and a history of severe non-specific symptoms of changes of behaviour should raise the possibility of septicaemic illness and prompt a search for petechiae, even if the child does not seem particularly ill. Meningitis, despite the misleading name of the causative organism, is often absent in fatal cases of meningococcal infections, and an examination to elicit meningism, especially in young children, is likely to prove fruitless.

Once a rash has appeared, the child should be transferred to hospital immediately, and, if possible, parenteral benzylpenicillin should be given en route. This policy will rarely confuse the differential diagnosis and may avert a tragedy provided the policy is continued in hospital.

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Alcoholism in the general hospital

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Summary and conclusions

To assess the prevalence of alcoholism among people admitted to hospital 303 patients completed a drinking questionnaire. A total of 59 (19·5%) were found to have a drinking problem, which constituted a sixfold greater prevalence than recorded in a community survey using the same technique. The drinkers were mostly men and tended to be younger than the non-drinkers and to smoke more heavily, live in more crowded conditions, and be of lower social class. Significantly more of the drinkers had at least one parent who was an alcoholic.

The results confirm that hospital inpatients comprise a larger proportion of alcholics than found in the general population. Hence medical staff should be alert to such patients, so that treatment may be initiated at an early stage of social decompensation.

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Introduction

Patients diagnosed as alcoholic may be difficult to treat at an early stage of their illness because of their unwillingness to accept the diagnosis or recognise that they have a problem. Nevertheless, any method that will detect incipient alcoholism should be exploited. General practitioners may diagnose only about one in 10 of all alcoholics,[1] and surveys of hospital wards suggest that a similar proportion of inpatients with drinking problems go unrecognised. In other countries[2-10] hospital inpatients comprise far more alcoholics than found in the general population. If the same applies in the United Kingdom physicians and surgeons should be alerted to their role in detecting the incipient alcoholic. To test this possibility we have investigated three groups of hospital attenders—namely, general medical inpatients, orthopaedic inpatients, and casualty reattenders.

Methods and patients

Patients admitted to a general medical ward and an orthopaedic ward and attending the casualty department were interviewed using a semi-structured drinking questionnaire as described by Edwards et al,[11] but without flash cards, together with a short demographic questionnaire. The distribution of scores did not conform to a bimodal curve, and the results were therefore recorded using the five-point cut-off of Edwards et al[11] and an eight-point cut-off correspond-

ing to a score that identified patients treated in hospital for alcoholism when given the Hilton Questionnaire.[12] In a subsample of 30 patients this technique was compared with a similar one in which flash cards were used. The correlation between the scores obtained by both techniques was high (r = 0·993). A score of 5 or more was arbitrarily used to define problem drinkers.

Inpatients were interviewed within 72 hours after admission, and the casualty sample on their second attendance, since it was not considered ethical to interview them with such a questionnaire at their first attendance. All patients admitted on any one day were interviewed, the days being chosen at random throughout the year to avoid the possibility of an excessive intake of heavy drinkers on certain days and at certain seasons. CMBJ saw most of the patients, and JMK saw patients when CMBJ was on leave.

A total of 303 patients (142 women, 161 men) completed both questionnaires. Of these, 143 were from medical wards, 72 from orthopaedic wards, and 88 from the casualty department. We set a lower age limit of 16. Thirty patients could not be interviewed, 20 because of their illness and 10 because they were discharged too soon. Only one patient refused interview. Orthopaedic patients were those requiring cold operations, since owing to a shortage of beds emergency cases were sent elsewhere.

Results

Our sample was similar to the community sample of Edwards et al,[11] the distribution of positive responses to each item in the samples showing a correlation of 0·806. Of the 303 patients in our sample, 59 scored 5 or more on the drinking schedule (see figure). Hence 19·5%
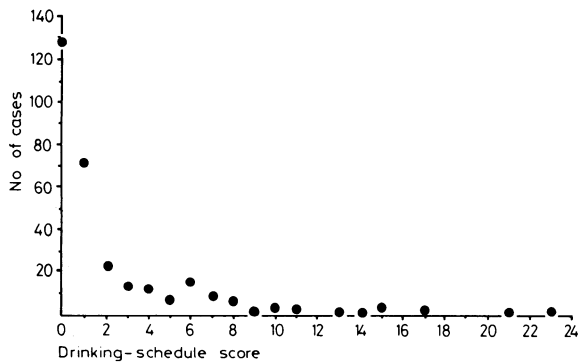
Distribution of drinking-schedule scores.

were classified as problem drinkers, comprising 12 (8·5%) of the women and 47 (29·2%) of the men. With the score of 5 being taken as the cut-off point the problem drinkers were found to differ in many respects from patients scoring below 5 (table I). Thus 80% of the problem drinkers were male compared with only 47% of the controls ($\chi^2 = 19·44$; P < 0·001). Similarly, the drinking group were younger and smoked more heavily, lived in more crowded conditions, were of lower social class (t = 5·28; P < 0·0001), and tended to live in local authority housing. Eight of the drinkers (13·6%) had at least one parent who was alcoholic compared with 12 (4·9%) of the controls ($\chi^2 = 5·84$; P < 0·05).

Although there was a slight trend for more problem drinkers to appear in the casualty sample, as a whole there were no significant differences between medical inpatients, orthopaedic inpatients, and the casualty group. We had predicted that there would be more cases of alcoholism among the orthopaedic patients than among the medical patients, but to some extent this would have been negated by the policy to admit orthopaedic emergency cases to other units. When acute admissions were examined separately for orthopaedic and medical inpatients there was no significant excess of high scores in the orthopaedic group, and indeed there was a tendency for more patients admitted as medical emergency cases to be problem drinkers (table II).

TABLE II—Numbers of medical and orthopaedic inpatients with and without problem drinking analysed by type of admission

	Medical inpatients		Orthopaedic inpatients	
	Problem drinkers	Normal	Problem drinkers	Normal
Acute admissions	25	108	7	34
Subacute/chronic admissions ..	0	10	4	27

Diagnostic grouping—Surprisingly, the problem drinkers did not represent any particular diagnostic group. Thus 52 (88%) of the drinkers were in diagnostic categories not usually associated with alcoholism, as were 229 (94%) of the controls ($\chi^2 = 3·51$; NS). Diagnoses traditionally associated with alcoholism are overdose, cirrhosis of the liver, myocarditis, neuropathy, pancreatitis, amblyopia, acute gastritis, and haemochromatosis. When the diagnostic categories were classified into the systems affected, again there was no significant difference between drinkers and the normal group in their distributions. Two of the commonest diagnoses were coronary thrombosis and overdose. Coronary thrombosis showed no significant differences, but overdose, when compared with the rest of the samples, showed an excess of problem drinkers ($\chi^2 = 6·51$; P < 0·025).

Negative findings—Several variables failed to distinguish the two groups, including use of nocturnal sedatives and proprietary medicines generally, race and country of origin of the patient concerned, choice of daily newspaper, marital state, and duration of admission and type of facility attended.

Discussion

In the community survey of Edwards et al[11] the overall prevalence of alcoholism was 3·13%, which was over six times less than the rate that we found in hospital inpatients, and the increase over community rates was greater for women than men (0·7% v 8·5% for women, and 6·15% v 29·2% for men). These differences might be explained if the mode of using the questionnaire had elicited more positive answers in our sample. So far as possible we followed the same procedure as Edwards et al, except that we dispensed with the flash card. We did not follow their technique of allowing a subject to score more than one point for a positive answer, since we thought that someone who was, for example, repeatedly late for work (due to a hangover) could score four points and would therefore require only one further point to be classified as a problem drinker. Although there were

TABLE I—Analysis of differences between patients scoring 5 or more (problem drinkers) and under 5 (controls) on drinking schedule

	Problem drinkers (n = 59)		Others (n = 244)		Significance of difference
No of men	47	(79·7%)	114	(46·7%)	$\chi^2 = 19·4$; P < 0·00001
Mean age (years)	38		51		t = 5·23; P < 0·001
No with head of household in occupation group I or II	5	(8·5%)	43	(17·6%)	$\chi^2 = 4·88$; P < 0·05
No of patients in occupation group I or II	7	(11·9%)	43	(17·6%)	$\chi^2 = 3·71$; P < 0·06
No of patients in occupation groups IV-VI	17	(28·8%)	50	(20·5%)	$\chi^2 = 0·11$; NS
Mean No of occupants of household	3·37		2·65		t = 2·99; P < 0·003
Crowding (mean No of occupants over mean No of bedrooms)	1·47		1·17		t = 2·85; P < 0·005
Parental attitudes to alcohol: No of patients with one or both parents alcoholic ..	8	(13·6%)	12	(4·9%)	$\chi^2 = 5·84$; P < 0·05
No of non-smokers	17	(28·8%)	137	(56·1%)	$\chi^2 = 9·57$; P < 0·01
Mean No of cigarettes daily*	13		7		t = 4·83; P < 0·0001
No with history of suicide attempt	6	(10·2%)	13	(5·3%)	$\chi^2 = 2·45$; NS
No with alcohol-related diagnoses	7	(11·9%)	15	(6·1%)	$\chi^2 = 3·51$; NS

*Approximate mean number of cigarettes smoked based on index giving approximate numbers only.
NS = Not significant.

TABLE III—*Results of surveys of alcoholism in hospital populations*

Series	Population	Place	No of subjects	Rates of alcoholism
Roche (1939)[2]	..Medical and surgical inpatients	Geneva	2075 (male)	48·2%
Bariéty *et al* (1957)[3]	..Medical inpatients	Paris	1320	23% of male and 11% of female patients with diagnoses attributed to alcoholism
Pearson (1962)[4]	..Medical and surgical inpatients	North Carolina (USA)	100 (male)	29%, plus 9% suspected
Nolan (1965)[5]	..Medical inpatients	New Haven (USA)	826	15·3% of male and 9·9% of female patients
Green (1965)[6]	..Medical inpatients	Melbourne (Australia)	841	19% of male and 3·7% of female patients
Barchha *et al* (1968)[7]	..Medical inpatients	Washington (USA)	392	27% of male patients, plus 7% suspected; 6% of female patients, plus 2·5% suspected
Moore (1971)[8]	..Medical and surgical inpatients	San Diego (USA)	200	18% of male patients, plus 7% suspected; 5·5% of female patients, plus 1·5% suspected
McClusker *et al* (1971)[9]	..Medical inpatients	Harlem (USA)	118	69% of male and 34% of female patients
Gomberg (1975)[10]	..Medical and surgical inpatients	Veterans Hospital (USA)	172	55% (26% currently drinking)
Present study	..Medical and surgical inpatients and casualty outpatients	London (England)	303	29% of male and 8·5% of female patients

advantages in rating the degree of disturbance, we thought that the tendency to attribute lateness to a hangover was a subjective judgment and that too much should not rely on one such positive response. Hence we would have excluded five of the 25 men problem drinkers in the community survey, so that our method may, if anything, have underestimated the amount of problem drinking in the hospital sample.

Another area where comparability may be affected is the interview itself. Quite apart from the difference in style of the interviewer—the interviewer in our sample being a male doctor of middle age, and in the community sample a young woman—patients in hospital might respond differently from subjects interviewed at home. It may be argued, however, that we were not so much looking for patients who were suffering from frank alcoholism as those whose drinking had started to become a problem.

It is difficult to draw comparisons with other studies since criteria for the diagnosis vary. Table III summarises the results of studies in general hospitals, excluding psychiatric units, and our results were comparable with many of these. In particular, they were similar to those of Barchha *et al*,[7] whose method was much the same as ours. There have been no comparable studies in the UK.

There are no particular advantages of a disguised versus explicit questionnaire to obtain a history of alcoholism,[13] with the exception that middle-class respondents are more likely to admit to a high intake of alcohol on direct questioning than working-class respondents, who score more highly on indirect assessment. As the drinking schedule is largely a direct measure and introduced to each subject as a test of their drinking habits it may have underestimated the social-class differences noted of the significant excess of subjects in social classes IV and V and in the category of unemployed.

MEDICAL DIAGNOSIS

Surprisingly problem drinkers did not cluster together in any particular diagnostic category associated with drinking, nor in any diagnostic group associated with any particular bodily system. The only diagnostic group that did contain an excess of problem drinkers was drug overdose, which probably reflects social pressures more than most other diagnostic categories. Although a higher cut-off did discriminate those admitted with alcohol-associated diagnoses, its failure to do so in the lower cut-off group is surprising. There may be two explanations for this: that the questionnaire did not effectively measure actual alcohol intake, or that a high alcohol intake is associated non-specifically with hospital admissions rather than admission for any particular illness. Admission to hospital is clearly more likely if there are inadequate social supports but, surprisingly, factors such as marital state, single household, etc did not relate closely to the alcohol score. There was an association with crowding and the numbers of occupants of the household and low social class—factors that would not necessarily result in admission to hospital but might be related to alcohol through the direct economic effect of drinking.

Rates of alcoholism in general hospitals vary between 55% (including 29% in remission)[10] and 8·7%.[14] Most studies have been American and are thus more likely to be affected by the admission policy of the hospital concerned than in the UK, where the district general hospital serves the needs of most of the local population. All show more men than women patients admitted with alcoholism. Similarly, the association of alcoholism with smoking is widely reported.[15] A relation of drinking to crowding is also to be expected, but whether this is cause or effect is open to dispute. The excess of alcoholism in patients admitted with drug overdose is widely reported,[16] and the effect of alcohol in increasing impulsive behaviour is well known. Our failure to find an association between alcoholism and the use of sedatives was unexpected, although one patient who scored one of the highest scores on the drinking questionnaire (15) took six barbiturate tablets at night. In general, however, there was no association with the type of night sedative, the dose and frequency of administration, and the score on the questionnaire.

Alcoholism is traditionally associated with either the unmarried or divorced state. We, however, found that the excess of alcoholism was equal in married, single, and divorced people, the only noticeable exception being a reduction of alcoholism in the widowed. This is largely accounted for by the effect of age, since widowed people were naturally older and age was negatively correlated with the drinking score ($-0·2360$).

Conclusions

These results must be considered against a background of the problem of defining alcoholism. There are no universally agreed criteria on what constitutes alcoholism or problem drinking. To clinicians the validity of screening instruments are often best measured against the diagnosis of alcoholism as applied by a psychiatrist or other mental health worker. A higher cut-off point of 8, which corresponded to this, still yielded a count of 13·2% for men and 3·5% for women, which is likely to be higher than a community sample (the significance of this distribution will be reported in detail elsewhere).

We therefore conclude that admissions to district general hospitals contain a disproportionate number of problem drinkers. The value of this study lies in increasing the awareness of hospital medical staff of alcohol dependence, and by earlier recognition initiating treatment when social decompensation is in its early stages.

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Cimetidine in treatment of reflux oesophagitis with peptic stricture

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Summary and conclusions

Twenty patients with reflux oesophagitis causing a tight peptic oesophageal stricture entered a randomised double-blind crossover trial in which they received cimetidine, 1·6 g daily, and matching placebo each for six months. The gross endoscopic appearances of oesophagitis, though not the grades of histopathological changes, showed significant improvement during treatment with cimetidine. The need for dilatation of the strictures, however, was not reduced.

Introduction

Peptic oesophageal stricture is caused by reflux oesophagitis, whose severity is related to the acidity of the oesophageal contents.[1] Cimetidine, a potent inhibitor of the secretion of gastric acid and pepsin, reduces oesophageal acidity,[2] relieves symptoms,[3] [4] and promotes healing of oesophagitis[5] [6] in patients with gastro-oesophageal reflux. To determine whether cimetidine is of benefit in the treatment of peptic oesophageal stricture we have studied its effect on symptoms, oesophagitis, and the need for dilatation in 20 patients with peptic oesophageal stricture resistant to conventional medical management of gastro-oesophageal reflux.

Patients and methods

Twenty patients, 10 men and 10 women aged 52-82 years (mean 70 years), entered the study. All had tight oesophageal strictures that, despite conventional medical measures to control reflux, had required at least two dilatations in the preceding six months or three in the preceding year. One patient suffered from systemic sclerosis, three had previously undergone vagotomy and pyloroplasty or a gastric resection for peptic ulcer, and one had undergone a Nissen fundoplication.

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Trial design—Cimetidine (400 mg four times daily) was compared with a placebo on a double-blind crossover basis, the preparations being given for six months each in random order. Symptoms, endoscopic and histopathological appearances, and the need for dilatation were recorded.

Symptoms—The occurrence of pain and the severity of dysphagia were recorded daily by the patients on a diary card, which they brought to the clinic on each monthly visit. Dysphagia was graded as the ability to swallow a normal diet (grade 0), a diet avoiding only certain solids such as steak or raw fruit (grade 1), a soft diet (grade 2), and a liquid diet (grade 3); those with grade 4 dysphagia had difficulty in taking even liquids in adequate amounts. All patients were weighed monthly in the clinic and throughout the trial took an antacid (Asilone Gel) as required for pain and were asked to sleep with the bed-head raised.

Endoscopy—The upper alimentary tract was examined using the Olympus GIFK fibreoptic endoscope at the beginning, after two months, and at the end of each six-month treatment period and whenever dysphagia became severe. The diameter of the stricture was measured and the degree of oesophagitis in the stricture assessed using a grading scale of 0 for normal mucosa, 1 for reddening, 2 for reddening and friability to touch, and 3 for ulceration.

Histopathology—Biopsy specimens from within the stricture were taken at endoscopy, and the degree of oesophagitis was graded histopathologically as normal (grade 0), mild inflammatory cell infiltration (grade 1), severe inflammatory cell infiltration (grade 2), and ulceration (grade 3).

Dilatation—Dilatation of the stricture using the Eder Puestow metal olive dilators was done only when the stricture failed to admit the Olympus GIFK endoscope (external diameter 12·5 mm).

Results

Fourteen of the 20 patients completed the full trial: five died during the trial (of whom three had completed at least six months) and one was withdrawn after six months. In all, 16 treatments with cimetidine and 16 with placebo were completed.

Symptomatic response—The average number of days and nights per month during which pain occurred was 6·8 for the six months of placebo treatment and 4·1 for the six months of cimetidine treatment. This difference was not significant, but since the maximum score possible was 56 pain was apparently not a troublesome symptom. The grade of dysphagia at the end of each month averaged 0·45 for placebo and 0·76 for cimetidine. This difference was not significant.

Endoscopic appearances—On entering the trial all patients had intense oesophagitis with ulceration in the stricture (grade 3). To assess the change in the gross endoscopic appearances the grade of oesophagitis at the beginning was subtracted from that at the end of each treatment period (fig 1). The degree of oesophagitis improved significantly during cimetidine treatment compared with placebo treatment ($P < 0.05$). During cimetidine treatment 10 of the 16 patients improved and one deteriorated, while during placebo treatment five improved and five deteriorated.