Table 1—*H pylori* status of seven patients after three courses of eradication treatment

Case No	First treatment		Second treatment		Third treatment		<i>H pylori</i> status after third treatment	Duration of follow up (months)
	Drug	No of days	Drug	No of days	Drug	No of days		
1	Omeprazole 20 mg twice daily Amoxycillin 1 g twice daily	14	Omeprazole 20 mg daily Tinidazole 500 mg twice daily Clarithromycin 250 mg twice daily	7	Omeprazole 20 mg twice daily Amoxycillin 1 g twice daily Clarithromycin 250 mg twice daily	7	Positive	9
2	Omeprazole 20 mg twice daily Amoxycillin 1 g twice daily Tinidazole 500 mg twice daily	14	Omeprazole 20 mg twice daily Amoxycillin 1 g twice daily	14	Omeprazole 20 mg twice daily Amoxycillin 1 g twice daily Clarithromycin 250 mg twice daily	7	Negative	11
3	Bismuth 120 mg four times daily Tetracycline 250 mg eight times daily Metronidazole 250 mg six times daily	14	Omeprazole 20 mg twice daily Amoxycillin 1 g twice daily Metronidazole 250 mg four times daily	14	Omeprazole 20 mg daily Tinidazole 500 mg twice daily Clarithromycin 250 mg twice daily	7	Positive	13
4	Omeprazole 20 mg daily Tinidazole 500 mg twice daily Clarithromycin 250 mg twice daily	7	Omeprazole 20 mg daily Amoxycillin 1 g twice daily Clarithromycin 250 mg twice daily	7	Bismuth 120 mg four times daily Omeprazole 20 mg twice daily Amoxycillin 1 g twice daily	7	Positive	9
5	Omeprazole 20 mg twice daily Amoxycillin 1 g twice daily Metronidazole 250 mg six times daily	14	Omeprazole 20 mg daily Tinidazole 500 mg twice daily Clarithromycin 250 mg twice daily	7	Omeprazole 20 mg daily Amoxycillin 1 g twice daily Clarithromycin 250 mg twice daily	7	Negative	15
6	Bismuth 120 mg four times daily Tetracycline 250 mg eight times daily Metronidazole 250 mg six times daily	14	Omeprazole 20 mg daily Tinidazole 500 mg twice daily Clarithromycin 250 mg twice daily	7	Omeprazole 20 mg twice daily Amoxycillin 1 g twice daily Clarithromycin 250 mg twice daily	7	Positive	12
7	Omeprazole 20 mg daily Amoxycillin 1 g twice daily Clarithromycin 250 mg twice daily	7	Omeprazole 20 mg twice daily Amoxycillin 1 g twice daily Metronidazole 250 mg six times daily	7	Bismuth 120 mg four times daily Tetracycline 250 mg eight times daily Metronidazole 250 mg six times daily	14	Positive	11

H pylori is difficult,⁴ and the need to culture the bacterium from several gastric sites in a single patient because of the possible coexistence of several strains compounds this difficulty.

G CAMMAROTA
Investigator in gastroenterology
A TURSI
Investigator in gastroenterology
A PAPA
Investigator in gastroenterology
G FEDELI
Professor of gastroenterology
G GASBARRINI

Director of internal medicine and gastroenterology schools
Departments of Internal Medicine and Gastroenterology,
Catholic University of Rome,
00168 Rome,
Italy

- Rubin G, Stevens R. Laboratory tests for *Helicobacter pylori* should be more widely available. *BMJ* 1996;313:172-3. (20 July.)
- Cellini L, Allocati N, Di Campi E, Masulli M, Di Bartolomeo S, Dainelli B. *Helicobacter pylori* isolated from stomach corpus and antrum: comparison of DNA patterns. *J Infect* 1996;32:219-21.
- Glupczynski Y, Labbe M, Hansen W, Crokaert F, Yourassowsky E. Evaluation of the E test for quantitative antimicrobial susceptibility testing of *Helicobacter pylori*. *J Clin Microbiol* 1991;29:2072-5.
- DeCross AJ, Marshall BJ, McCallum RW, Hoffman SR, Barrett LJ, Guerrant RL. Metronidazole susceptibility testing for *Helicobacter pylori*: comparison of disk, broth, and agar dilution methods and their clinical relevance. *J Clin Microbiol* 1993;31:1971-4.

Complementary medicine

Most private medical insurers will pay for certain forms of complementary medicine

EDITOR,—The news article about the use of complementary medicine in various countries raises several points of interest, such as the variability in the recognition of, and in the attitudes towards, complementary medicine among the public and the medical profession.¹ Little is

known about private medical insurers' reimbursement policies for complementary medicine. The findings of a survey that a colleague and I recently carried out may be of interest.² We sent a modified questionnaire³ to a random sample of 100 rheumatologists across Britain. We also sent a questionnaire to the 20 main private medical insurers, asking about company policy towards reimbursement for complementary treatment.

Seventy one rheumatologists responded. Acupuncture was the most popular discipline ($n = 42$), followed by osteopathy ($n = 24$) and the Alexander technique ($n = 18$). A third (23) of the rheumatologists thought that osteopathy should be available on the NHS, and over half (40) thought the same for acupuncture; other treatments were regarded as less desirable. Rheumatologists generally supported the suggestion that certain disciplines, such as acupuncture, should be taught to medical students and physiotherapists, though they were less supportive of this for other disciplines.

Rheumatologists generally considered osteopathy, acupuncture, and chiropractic to be more effective in treating rheumatic complaints than other complementary treatments. Patients were usually referred to these disciplines after conventional treatment and rarely at their initial consultation. Only a quarter of the respondents were aware that private medical insurers paid for certain forms of complementary medicine.

Of the 20 companies to which we sent questionnaires, 17 responded. Most of the companies paid for chiropractic, osteopathy, homoeopathy, acupuncture, and the Alexander technique. Other treatments were paid for less commonly. In certain disciplines, such as acupuncture, homoeopathy, and the Alexander technique, only consultant referrals were paid for. Some disciplines, such as herbal medicine, naturopathy, reflexology, and aromatherapy, were not paid for even on consultant referral.

Despite much controversy, complementary

medicine is popular with the general public. In the new consumer conscious NHS, trusts must take into account the attitudes of the public as well as of various specialists when planning or purchasing such treatments.

B PAL
Consultant in rheumatology and rehabilitation
Department of Rheumatology,
Wythenshawe Hospital,
Manchester M23 9LT

- Goldbeck-Wood S, Dorozynski A, Lie LG, Zinn C, Josefson D, Ingram M. Complementary medicine is booming worldwide. *BMJ* 1996;313:131-3. (20 July.)
- Pal B, Morris J. Rheumatologists and complementary medicine. *Rheumatology in Practice* 1996;3(2):18-20.
- Perkin MR, Percy RL, Fraser JS. Comparison of the attitudes shown by general practitioners, hospital doctors and medical students towards alternative medicine. *J R Soc Med* 1994;87:523-5.

Norwegian ministry of health is discussing whether to authorise various treatments

EDITOR,—In the article about the use of complementary medicine in various countries, Norway is one of those discussed.¹ We would like to point out an error and to give some more information.

Firstly, it is incorrect to state that no state funding is available for research into complementary medicine. Each year since 1993 the Norwegian Ministry of Health and Social Affairs has given 1.5m Norwegian kroner (£151 500; \$227 250) for research into complementary medicine.

Secondly, the article does not mention chiropractic. Chiropractic is relatively widely practised in Norway, and chiropractors became authorised a few years ago, in 1988. The cost of chiropractic treatment is partly reimbursed.

Finally, we would point out that alternative medicine is still under discussion in the Norwegian Ministry of Health and Social Affairs. One of the questions being discussed is

whether other branches of complementary medicine should be authorised.

KJERSTI ENGEHAUGEN
Adviser
KARI BENTE SØRLIE
Project coordinator

Royal Norwegian Ministry of Health,
Grubbeggt 10,
PO Box 8011 DEP,
N-0030 Oslo,
Norway

1 Goldbeck-Wood S, Dorozynski A, Lie LG, Zinn C, Josefson D, Ingram M. Complementary medicine is booming world-wide. *BMJ* 1996;313:131-3. (20 July.)

Single dose of oral dexamethasone for outpatient croup

Failure to follow up all patients is a concern

EDITOR,—G C Geelhoed and colleagues conclude from their study that oral dexamethasone at a dose of 0.15 mg/kg is effective in reducing return to medical care in children with mild croup.¹ The sample size seems adequate, though on the borderline for detecting a 90% reduction, but the fact that four children were not followed up is of concern. If the two children lost to follow up in the treatment group had in fact sought some medical care (or even died) this would have meant that the difference in outcome between the two groups was not significant by Fisher's exact test. We wonder why the calculation of sample size assumed such a large reduction as 90%. Was this a retrospective calculation?

The final key message states that all children presenting with croup should be considered for steroids. Before the authors' findings can be generalised we need to know what proportion of children who presented with mild croup were excluded from the trial and what the rate of parental refusal was.

ROSIE HELOWICZ
Effectiveness analyst
JILL WALTON
Effectiveness analyst

Department of Public Health,
East Surrey Health Authority,
Epsom,
Surrey KT19 8PH

1 Geelhoed GC, Turner J, Macdonald WBG. Efficacy of a small single dose of oral dexamethasone for outpatient croup: a double blind placebo controlled clinical trial. *BMJ* 1996;313:140-2. (20 July.)

Authors should have stated how drug was given

EDITOR,—The results of G C Geelhoed and colleagues' trial of a single dose of oral dexamethasone for outpatient croup would be easier to apply in practice if we knew how the authors gave the dexamethasone.¹ Did they use the 500 µg tablets or a solution, and did they round the dose to the nearest 250 or 500 µg? Was the dose given in the emergency department immediately on diagnosis, or did a parent give it later after getting it dispensed?

ANDREW HERXHEIMER
Clinical pharmacologist

9 Park Crescent,
London N3 2NL

1 Geelhoed GC, Turner J, Macdonald WBG. Efficacy of a small single dose of oral dexamethasone for outpatient croup: a double blind placebo controlled clinical trial. *BMJ* 1996;313:140-2. (20 July.)

Authors' reply

EDITOR,—Rosie Helowicz and Jill Walton express concern about the children who were lost to fol-

low up in our study. Our follow up rate of 96% is extremely good when compared with follow up rates in other clinical studies of outpatient treatment. Although we could not follow up four children directly, we were able to ascertain that none of them presented to any hospital in the Perth metropolitan area in the 10 days after their original episode of croup.

Helowicz and Walton also point out that if the two children lost to follow up in the treatment group had relapsed then the results would no longer be significant ($P = 0.08$ by our calculations). On the basis of the outcome in the 96 other children in the study, however, it seems more logical to assume that the two children lost to follow up in the treatment group would not have relapsed, which would give $P = 0.003$. Rather than indulge in more "what if" scenarios, we think it worth noting that we saw 935 children with croup in our emergency department in the first six months of 1996, when it was standard practice to offer these children a dose of oral dexamethasone. Of the 668 children who were sent home, only 19 (2.8%) reattended, which is a much smaller proportion than the 15% we would have expected. In answer to Andrew Herxheimer's questions, children in the study were given a solution of oral dexamethasone BP (manufactured in our hospital pharmacy¹) in the hospital emergency department. The dose given was exactly 0.15 mg/kg.

G C GEELHOED
Department director
W B G MACDONALD
Consultant

Emergency Department,
Princess Margaret Hospital for Children,
GPO Box D184,
Perth,
Western Australia 6001

1 Accordino A, Chambers R, Thompson B. A short term stability study of an oral solution of dexamethasone. *Aust J Hosp Pharm* 1994;24:312-6.

QTc dispersion and risk of cardiac death in peripheral vascular disease

Dispersion of 60 ms^{1/2} is insufficient to change clinical management

EDITOR,—Dawood Darbar and colleagues investigated the usefulness of QTc dispersion as a predictor of cardiac death in patients with peripheral vascular disease.¹ They compared QTc dispersion in a routine electrocardiogram in patients with peripheral vascular disease who had probably died of cardiac causes with that in those who survived. The mean QTc dispersion in these patients was 86.3 ms^{1/2} and 56.5 ms^{1/2} respectively. The authors claim that a QTc dispersion of 60 ms^{1/2} is highly predictive of sudden cardiac death. However, QTc is a continuous variable, so the normal distributions of the data for each group would be as shown in figure 1.

Although the figure of 60 ms^{1/2} is significant, in reality only patients with a QTc dispersion of >86 ms^{1/2} may confidently be considered to be at increased risk. Given that the mean QTc dispersion of the survivors was 56.5 ms^{1/2} with a standard deviation of 25.4, it is difficult to see how, in clinical practice, a QTc dispersion of 60 ms^{1/2} would be sufficient to alter the management of the patient.

There are also methodological problems with this qualitative measurement of QT dispersion. For example, estimating the end of the T wave as being at the nadir between a T and U wave² may lead to an underestimate. Determining the adjusted QTc dispersion by dividing the QTc dispersion by the square root of the number of

Fig 1—Diagrammatic representation of data of Darwood and colleagues¹

leads measured³ may compound qualitative errors that might be expected to arise from a high interobserver variability in QT measurement.

Although promising, the evaluation of dispersion of repolarisation from surface electrocardiography requires validation and would be much more useful clinically if qualitative bias could be removed. It is at present rather optimistic for QT dispersion to be considered the "electrophysiological Holy Grail."¹

NICHOLAS J LINKER
Senior registrar in cardiology
ADAM P FITZPATRICK
Consultant cardiologist

Department of Cardiology,
University of Manchester,
Manchester Royal Infirmary, Manchester M13 9WL

- 1 Darbar D, Luck J, Davidson N, Pringle T, Main G, McNeill G, et al. Sensitivity and specificity of QTc dispersion for identification of risk of cardiac death in patients with peripheral vascular disease. *BMJ* 1996;312:874-9. [With commentary by R Campbell.] (6 April.)
- 2 Day CP, McComb JM, Campbell RWF. QT dispersion: an indication of arrhythmia risk in patients with long QT intervals. *Br Heart J* 1990;63:342-4.
- 3 Day CP, McComb JM, Matthews J, Campbell RWF. Reduction in QT dispersion by sotalol following myocardial infarction. *Eur Heart J* 1991;12:423-7.

Three facets of the study need attention

EDITOR,—Darwood Darbar and colleagues showed the predictive value of QTc dispersion (≥ 60 ms) in patients with peripheral vascular disease,¹ but we think that three parts of this paper need attention.

The first is the patient population. This small, retrospective study was not controlled for risk factors, which introduces significant selection bias. Patients with peripheral arterial disease have a higher incidence of coronary artery disease and its complications. Ischaemic burden (symptomatic or asymptomatic) and the severity of coronary stenosis influences prognosis.² Mean ejection fraction is useful, but in individual patients the above events clearly alter the prognosis, with only a small change in mean ejection fraction. The paper fails to correct for these influences. Several earlier studies have found QTc not to be a predictor of ventricular tachycardia or ventricular fibrillation even in patients after a myocardial infarction.³ Therefore, we wonder whether this test would still be predictive in a multivariate analysis.

The second is that the measurement of QT and QTc dispersion is unstandardised⁴ and shows wide variability even with digitised boards.⁴ Darbar and colleagues do not mention the exact method of measurement, but the impression is that it was manual. With three observers measuring QTc, we find it surprising that interobserver or intraobserver variability was not evaluated. Why do the authors cite studies observing large errors in QT dispersion assess-