incorrectly diagnosed until necropsy and the overall mortality was 25%. Trapnell⁵ reported that in 6% of his series of 590 patients with acute pancreatitis the diagnosis was made only at necropsy and the overall series mortality was more than 20%.

Thus in any analysis of mortality in primary acute pancreatitis it is important to differentiate between patients in whom the diagnosis is made at necropsy and those in whom it is made during life. Mr Imrie³ and others⁶ have shown that in trials of various therapeutic regimens there is a mortality of about 10%, but these patients are only those who had the diagnosis made in life. Mortality from acute pancreatitis will always be higher than people think is acceptable clinical practice until we can diagnose all cases in life and undertake appropriate early treatment. This distinction is important and must be fully appreciated and acknowledged when making comparisons between different series. Alas, this distinction is not always appreciated,^{7,8} which may explain some of the confusion about mortality in acute pancreatitis.

J B BOURKE

Department of Surgery,
University of Nottingham

¹ Bourke, J B, *Lancet*, 1975, 2, 967.

² Trapnell, J E, and Duncan, E H L, *British Medical Journal*, 1975, 2, 179.

³ Imrie, C W, et al, *Gut*, 1977, 18, A957.

⁴ Pollock, A V, *British Medical Journal*, 1959, 1, 6.

⁵ Trapnell, J E, *Clinics in Gastroenterology*, 1972, 1, 147.

⁶ Cox, A G, et al, *Lancet*, 1977, 2, 632.

⁷ *British Medical Journal*, 1973, 4, 503.

⁸ *Lancet*, 1975, 1, 205.

Alpha-fetoprotein in antenatal diagnosis of neural tube defects

SIR,—Dr R Carachi (19 November, p 1357) raises a number of important issues with respect to both screening for and diagnosis of neural tube defects by α -fetoprotein (AFP) measurements. His comment that "the decrease in the numbers of babies born with spina bifida is still not evident in those centres that have to manage these deformities" is perhaps not fair, since no health authority has yet adopted wide-scale screening as an aspect of routine antenatal care. By a curious irony the only place where there has been a clear demonstration of a decrease in the incidence of neural tube defects is in Dr Carachi's home town of Glasgow. Professor Malcolm Ferguson-Smith (*Scotsman*, 1 December) has shown a dramatic decrease in the birth incidence of both spina bifida and anencephaly since the introduction of screening into the Strathclyde Region. This would appear to justify the hopes that many of us have held out for a real reduction in incidence of these appalling disorders as soon as anyone had courage to apply the AFP test on the scale for which it was designed. Naturally it will remain an incomplete test for as long as a proportion of mothers fail to attend booking clinics before the 20th week of their pregnancy. Screening will also not detect closed neural tube defects, which may represent 5-10% of the total, but this is not reckoned to be disadvantageous since the majority of these can be repaired surgically and have a good prognosis.¹

Nobody who has used amniotic fluid AFP in early antenatal diagnosis of neural tube defects would deny that there is a danger of false-positive determinations. The case which we reported in our article (8 October, p 934) was the first incorrect diagnosis we had made in a series of over 1500, during which time

some 72 cases of neural tube defect had been correctly diagnosed. This gives a false-positive rate of less than 0.1%, a figure which has been confirmed in other larger studies.² We cannot see how a false-positive rate at this level calls in question the whole value of screening. Furthermore, Dr Carachi seems to have missed the point of our article, which was to show that if rapidly adherent (RA) cell morphology is used together with amniotic fluid AFP the false-positive rate should be even lower.

It has been conceded for some time that an elevated AFP concentration in the amniotic fluid is not specific to a neural tube defect. However, most of the fetal conditions known to be associated with increased values are serious.³ We would take issue with Dr Carachi's comment that exomphalos and gastroschisis are treatable conditions. This is a gross over-simplification. For example, the incidence of associated malformations in cases of exomphalos ranges from 52% to 79% and in at least 20% of the cases the other malformation is anencephaly.⁴ Where RA cell morphology has maximum potential is in the discrimination between simple and treatable malformations and those which are more complex.⁵⁻⁷

D J H BROCK

University Department of Human
Genetics,

CHRISTINE GOSDEN

MRC Clinical and Population
Cytogenetics Unit,
Western General Hospital,
Edinburgh

¹ Laurence, K M, *Lancet*, 1974, 2, 939.

² *Prenatal Diagnosis of Genetic Disorders of the Fetus*, ed J Lindsten et al. Paris, INSERM, 1976.

³ Brock, D J H, *British Medical Bulletin*, 1977, 32, 16.

⁴ Warkany, J, *Congenital Malformations*. Chicago, Year Book Medical Publishers, 1971.

⁵ Gosden, C, and Brock, D J H, *Lancet*, 1977, 1, 919.

⁶ Gosden, C, et al, *Clinical Genetics*, 1977, 12, 193.

⁷ Brock, D J H, and Gosden, C, *Lancet*, 1977, 2, 1168.

SIR,—I would like to endorse Mr R Carachi's views (19 November, p 1357) on the worrying cases of false-positive elevated α -fetoprotein levels. I recently had a hydramniotic pregnancy with what were described as "upper normal" α -fetoprotein levels and the anxiety caused by the lack of objective evaluation of the biochemical results was extremely distressing for all concerned. We were spared the predicament of considering termination as results did not become available until 30 weeks, but in view of the happy eventual outcome the possibility of termination is terrifying.

If a scheme for universal α -fetoprotein screening is to be introduced it must be at an early enough stage to allow time not only for checking ambiguous results but also for the family involved to decide about termination before this becomes legally and gynaecologically difficult.

ANNE WALLING

Sittingbourne, Kent

ECT and the media

SIR,—Dr J F Anderson (3 December, p 1478) is difficult to please. I had hoped that by demonstrating that opinions in favour of ECT are occasionally presented on television it would overcome his belief that the media only present adverse publicity for the treatment. Now he shifts his ground. He apparently admits that a range of views of medical topics can be found on television but he is only

content if conflicting views are to be found in the same programme. Further, he seems to believe that because my quotes from an "Inside Medicine" programme on ECT were favourable to the treatment the programme as a whole was biased. This is not the case. It was actually a balanced programme—I merely quoted the favourable bits to counter-balance Dr Anderson's quotes from "Panorama." In fact the programme also included the following quotes:

Narrator—"In America, and notably in California, opposition to ECT has now reached the point where legislation is making it virtually impossible for doctors to use ECT, even when patients demand it."

Narrator—"ECT in the early days was a distressing business. In this film, taken in the 1950s, ECT is being given without any anaesthetic or drugs to relax the muscles. The convulsion under these conditions could be very violent, and broken teeth and spinal fractures were not uncommon. This is the image of ECT that has lingered on and is perhaps responsible for present-day misgivings about the treatment. In *The History of Shock Treatment*, a recent publication from an anti-ECT group in America, ECT is certainly presented as a sort of licensed torture."

Narrator—"The most troublesome part of having ECT is that it can cause loss of memory. This is thought to be temporary, though no one is yet quite sure about the long-term effects. . . . Ernest Hemingway was given ECT shortly before his suicide, and he objected violently to the way his memory was affected. He said that ECT would ruin his career as a writer. . . . This girl had 36 ECTs over a period of 2½ years. She still feels strongly about the memory loss."

Patient—"It's acute, I mean, I couldn't remember who I was sometimes, where I was, what day it was, and as to where I was, why I was there. That was very frightening, and not knowing why I was there in the place I was in. Why I was sitting there. Why I'd such a headache and why I couldn't remember anything. Not being able to, everything, sort of being out of perspective, then going back to the ward at the hospital and not remembering any faces or names and having to ask people who they were again, that happened quite often, and you know quite often the other people on the ward came to expect it really of everybody. But I should say that I think it's one of the most frightening things that's ever happened."

Narrator—"Now obviously any treatment which has bad side effects shouldn't be used unless the side effects are outweighed by the benefits. One of the main worries of the critics of ECT is that doctors aren't careful enough about this—that they use ECT when it's not really necessary. . . . This report on St Augustine's Hospital near Canterbury concluded that ECT was being used casually and without proper supervision, and sometimes without the full consent of the patients. And the Health Service Commissioner—whose report came out last month—found that a patient had been given ECT totally against his wishes. His hand had been guided to write his signature on the consent form, and when he tore up the form it was stuck together again. There is no way of knowing whether or not such cases are the tip of an iceberg, but it does seem that ECT is used more frequently than it need be."

Contributor—"There's very wide variations in the use of ECT as between one hospital and another; for instance, in the Home Counties two hospitals side by side, one uses ECT perhaps four or five times a year; in the other hospital some 60% of patients are treated with ECT. Results from both hospitals tend to be similar so it would seem that despite enormous variations in the use of ECT the outcomes are not all that different. Therefore in our view perhaps more care should be taken in the use of ECT and it could be used much more sparingly in some hospitals than it is at present."

Doctor—"Well, I think it's reasonable to object if ECT is used on a pretty automatic basis, I mean, there are unfortunately a number of hospitals even in this country which seem to run on the

principle, if it moves give it drugs, and if it stands still give it ECT. I would like to think that was just a very very bad and unpleasant joke, but I'm afraid it's not."

By now, sir, you have probably printed most of that particular programme in your columns and I hope it has served a useful purpose. It's certainly one way of making sure that doctors are aware of what is to be found on television if they are unable to watch.

One final point. I did not say that I feel a need to worry people. I said that the BBC could not take as its guiding principle "Thou shalt not worry people." The two statements are rather different.

KARL SABBAGH
Executive Producer,
Science and Features,
BBC TV

London W14

Life with spina bifida

SIR,—The management protocols adopted by some paediatricians, as described by Professor R B Zachary in his article on spina bifida (3 December, p 1460), raise important ethical issues. In cases where curative medicine has nothing more to offer it is accepted as good medical practice to see that patients die in comfort and with dignity. Furthermore, it is also accepted that when a patient's life is merely being prolonged by the sophisticated techniques of intensive care, with no prospect of restoring health, those techniques should be withdrawn.

However, actively, wilfully, and deliberately to employ a regimen, from whatever motive, designed to cause death introduces an entirely new ethic into medicine. It is one which will be regarded by many patients and doctors with profound disquiet. Once it becomes established in one area, what logical grounds are there for not extending such a seemingly compassionate approach to other areas?

One argument against voluntary euthanasia is that once doctors are allowed to end life on request they will eventually do it at their discretion. If the regimens described by Professor Zachary are in fact prescribed that argument is incorrect—it is already happening.

J F SEARLE

Royal Devon and Exeter Hospital
(Wonford),
Exeter

SIR,—The considerable interest aroused by Professor R B Zachary's statement (3 December, p 1460) that many children born with severe spina bifida are sedated or starved to death, or both, is rather belated, since I made the same point myself almost two years ago,¹ adding for good measure that the Department of Health and Social Security in its booklet "Care of the Child with Spina Bifida" gives its tacit approval to this policy. I did so to demonstrate the ethical confusion which prevails in this area, since the DHSS ostensibly follows a policy of "preserve at all costs" in the case of late abortions in the grey area between fetushood and infancy. Professor Zachary shares this confusion, though he tries hard to conceal it.

There are patients of all ages who prompt their doctors, their relations, and society as a whole to ask whether their death will come as a release or whether it is a tragedy which should be actively avoided or postponed if at all possible. Sometimes the patient himself can

ask and answer the question, but modern medicine keeps many people alive who cannot have any say in what is done to them. It is evident that Professor Zachary does not believe that all cases of spina bifida merit active therapeutic intervention, but unless his clinical judgment is infallible some of those whom he rejects will surprise him by living on with very severe physical and mental handicaps. If this outcome gives him even qualified pleasure, let him say so, especially to the parents, and let him come out unequivocally against the antenatal diagnosis of any disease.

I strongly suspect, however, that Professor Zachary, like most people, believes that some patients should be allowed to die and is not against eugenic abortion. If this is so, it means that he must make distinctions between those whom he wants to see survive and those whom he hopes will die. The major difference then is the manner of death: slow, uncertain, and distressing versus quick, certain, and somewhat less distressing. The argument that the active killing of a patient is a crime, while encouraging him to die by deliberate inactivity is not, is as wrong as it is prevalent. Let anyone who disagrees try it out the next time he causes the death of a child with meningitis by refusing—or even failing—to give treatment. It is sad to see Professor Zachary falling into this venerable trap.

I quite agree that, as with neonatal circumcision, sedation in these cases is therapeutically superfluous, since what is not remembered cannot be called suffering. The sedatives are clearly given to reduce the anxieties of the doctors and nurses, but surely there is nothing very new in that.

COLIN BREWER

London W1

¹ Brewer, C, *Guardian*, 4 February 1976.

Indications for prenatal chromosome analysis

SIR,—Professor J Philip and his colleagues claim (29 October, p 1117) that they have found similar incidences of chromosomal abnormalities in amniotic cell cultures from women with increased risk of giving birth to a child with such abnormalities and from those without (1.2% and 1.4% respectively). They suggest that current criteria for the selection of pregnant women for amniocentesis may need revision, though they do recognise the need for a larger study. Although there will doubtless be some refinement of criteria in the future, we consider that the implication that any major revision may be necessary is not justified by their findings, which can be interpreted quite differently. It would be unfortunate if clinicians were to be deterred from offering amniocentesis to their patients as a result of accepting the authors' interpretation of their results.

The difficulties in the interpretation of their data are threefold. Firstly, they pool several disparate "high-risk" groups to obtain their overall incidence of chromosomal abnormality of 1.2%. This is misleading because both their observed incidences and those that would have been anticipated from earlier studies vary considerably. If, for example, the two groups with the lowest expected risk—namely, mothers of 35-39 years and those with a previous chromosomally abnormal child—are excluded, then the incidence among the remaining groups becomes 6.25%. In fact the incidence of 0.2% among these two groups

with only slightly increased risks does not differ greatly from that which would be expected from either retrospective or prospective studies, about 0.5-1.0%.

Secondly, the 1.4% incidence in their low-risk groups must be attributed to chance. It derives entirely from five instances of sex chromosomal anomaly, three of which occurred in their "Down's syndrome in the family" group which could arguably be placed with the increased-risk groups. The figure is higher than would be expected from surveys of consecutive neonates or from the limited figures available from prospective studies of amniocentesis on women not at increased risk of a fetus with a chromosomal abnormality.

Thirdly, the authors quote several such prospective studies in support of their own figures and in doing so have again pooled different groups at high risk to arrive at an overall incidence of 2.6%, including their own data, compared with 0.96% for patients with no increased risk. The assignment of high- and low-risk groups of patients from these and other studies can be juggled to give figures more or less favourable to the authors' case.

In conclusion, while strongly endorsing the plea for larger series to be reported, we would in the meantime advise caution in proposing even tentatively suggestions for revising the criteria for amniocentesis.

F E HYTTEN
R A HARKNESS

Division of Perinatal Medicine,

M CRAWFORD

Division of Inherited Metabolic
Diseases,
Clinical Research Centre,
Harrow, Middx

False-negative results in urine testing for glucose

SIR,—Three patients in our group practice (two of them known diabetics) have recently been found to have definite glycosuria on testing with Clinistix strips, but no glycosuria was indicated with Diastix and Labstix. I understand from the manufacturers that similar findings have been reported by other doctors. One of the causes of discrepancy may be synergistic action between various drugs currently being prescribed for the patient.

I would suggest that Labstix and Diastix are not suitable for use as a screening test for glycosuria.

S E BROWNE

Dartford, Kent

Survival of infants of 1000 g birth weight or less

SIR,—We read with great interest the paper by Dr R R Gordon on neonatal mortality in England and Wales (5 November, p 1202). It was of particular interest to us to learn that the neonatal mortality rate for infants of 1000 g birth weight or less was 77.33% in England and Wales in 1975. As the figure for 1964 was 83.97% Dr Gordon rightly comments that on a community basis super-intensive care of the very-low-birth-weight infant does not appear to have improved survival rates. We are, however, not told how many of the 1416 infants weighing 1000 g or less received expert care in a perinatal or neonatal centre.