globulin have a strong but not exclusive influence.[1] Changes in albumin have only a minor effect, but paraproteins[2] and lipoproteins[3] also increase plasma and serum viscosity. For these reasons estimations of plasma fibrinogen from the difference of plasma and serum viscosity are unreliable and can be wrong by as much as 100%.[1]

According to the authors' own reasoning a quantitative plasma protein determination (electrophoresis) therefore should be more reliable as a predictor of early rheumatic conditions.

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[1] Harkness J. *Biorheology* 1971;**8**:171-93.
[2] Somner T. *Advances in Microcirculation* 1975;**6**:1-55.
[3] Seplowitz AH, Chien S, Smith FR. *Arteriosclerosis* 1981;**38**:89-95.

Prescribing clindamycin

SIR,—The two letters by Mr D H Wilson and Dr N MacLeod (25 April, p 1397) highlight the doubts about when clindamycin, an undoubtedly useful antibiotic, should be prescribed. Dr MacLeod states that this agent has a place in the treatment of severe infections, yet Mr Wilson uses it in his accident and emergency department for the therapy of soft tissue infections, which I presume includes a high proportion of relatively minor infections. So should clindamycin be reserved for severe infections, as the manufacturers recommend, or does it deserve more widespread use?

The Committee on Safety of Medicines[1] in 1979 issued a warning that clindamycin and lincomycin should "be reserved for serious or life-threatening conditions where other antibiotic therapy is ineffective or undesirable. . . ." In reappraising this warning the committee, as well as considering the general clinical usefulness of clindamycin (and lincomycin), should take note of three observations. Firstly, pseudomembranous colitis (the reason for issuing the warning) has been reported in association with virtually all antibiotics. Secondly, there does appear to be clustering of cases in certain hospitals (raising the possibility of cross-infection by *Clostridium difficile*) whereas others have had little trouble. Thirdly, pseudomembranous colitis does appear to be more prevalent in patients undergoing gastrointestinal surgery (but this may be related to case selection).[2]

In my opinion clindamycin could be more widely used for less severe infections if (*a*) there has been no problem with pseudomembraneous colitis in the hospital concerned; (*b*) the patient does not have any gastrointestinal disorder; and (*c*) it is discontinued if diarrhoea occurs.

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[1] Committee on Safety of Medicines. *Adverse reactions*. Series No 17. 1979.
[2] Keighly MRB, Alexander-Williams J, Arabi Y, *et al.* *Lancet* 1978;ii:1165-7.

SIR,—My colleague Mr D H Wilson (25 April, p 1397) proposes the continued use of clindamycin to treat soft tissue infections and suggests that an alternative antibiotic must be guaranteed never to cause pseudomembranous colitis. Of course, pseudomembranous colitis has been reported to be caused by a wide variety of antibiotics but lincomycin and clindamycin are by far the most frequent culprits.[1]

Although the incidence of pseudomembranous colitis of one in 7500 in Leeds might be considered low, in another study it occurred in 10% of 200 patients treated with clindamycin.[2] It is well known that the incidence of pseudomembranous colitis varies from hospital to hospital, even within the same city, possibly owing to cross-infection.[3 4] The relatively low incidence in Leeds cannot thus be used to predict with confidence the frequency of this condition elsewhere.

Despite the advent of treatment with vancomycin pseudomembranous colitis remains an unpleasant and life-threatening condition. Clindamycin may be effective in healing soft tissue infections rapidly but I consider that in the light of current evidence safer alternatives are available and the drug should be withheld except to treat serious infections, as recommended by the manufacturers.

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[1] Keusch GT, Present DH. *J Infect Dis* 1976;**133**:578-87.
[2] Tedesco FJ, Barton RW, Alpers DH. *Ann Intern Med* 1974;**81**:429-33.
[3] Milligan DW, Kelly JK. *J Clin Pathol* 1979;**32**:1237-43.
[4] Price AB, Larson HE. *Lancet* 1979;i:443.

Cost of treating pseudomembranous colitis

SIR,—We have followed with interest the recent correspondence in your columns (25 April, p 1397) concerning the cost of treatment of antibiotic-associated pseudomembranous colitis, prompted by the letter from Dr Ian Cocks (28 March, p 1078).

While we do not wish to enter the debate on the desirability or otherwise of the use of clindamycin, we would like to point out that the cost of treatment of pseudomembranous colitis can be reduced by the use of oral vancomycin in a dosage of 125 mg four times a day for a period of only five days. This regimen has been shown to result in bactericidal levels of vancomycin in the stool[1] and to be clinically effective,[1 2] and yet is considerably less expensive than the use of a higher dose for a longer period, as described by Dr Cocks. It has also been suggested that a short course of low-dose treatment may be preferable, in view of its less pronounced effects on the intestinal flora.[3]

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[1] Keighley MRB, Burdon DW, Arabi Y, *et al.* *Br Med J* 1980;**281**:1667-9.
[2] Schapira AHV, Dyson PHP. *Lancet* 1980;ii:204.
[3] George WL, Rolfe AD, Finegold SM. *Gastroenterology* 1980;**79**:366-72.

Depression of cellular immunity as an index of malnutrition in surgical patients

SIR,—Drs K S Nair and J S Garrow present some interesting findings related to nutrition, surgery, and cellular immunity in their short paper (28 February, p 698). They confirm the common finding that surgery depresses cellular immunity. This response to trauma, be it accidental or planned—that is, surgical—has been extensively investigated but the exact mechanisms remain unclear. They hypothesise that this immunosuppression is secondary to increased secretion of "stress hormones."

We have recently studied a group of 21 burned patients who developed depression of cellular immunity. We related the occurrence of anergy and immunosuppressive serum and found a clear correlation ($p < 0.005$) but the cortisol levels of the same samples did not correlate with anergy or immunosuppressive sera. This confirms work by others in patients[1 2] and experimental animals[3] that cortisol is not a major factor in post-traumatic immunosuppression, although it has a suppressive effect in vitro.[4]

We have preliminary data linking nutritional status to the depression of cellular immunity following surgery. But we would agree that depression of cellular immunity, taken alone, is a poor index of malnutrition.

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[1] Slade MS, Simmons RL, Yunis E, Greenberg J. *Surgery* 1975;**78**:363-72.
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[3] Eurenius K, Mortensen RF. *Int Arch Allergy* 1971;**40**:707-18.
[4] Fauci AS, Murakami T, Brandon DD, Loriaux DL, Lipsett MB. *Cell Immunol* 1980;**49**:43-50.

Are fibre supplements really necessary in diverticular disease of the colon?

SIR,—Dr Kenneth Vickery (9 May, p 1546) warns against reading more into reports of clinical trials than their authors' claim. We entirely agree. We had hoped to make clear in our paper (25 April, p 1353) that our trial was designed to assess the effectiveness of the *usually accepted* dose of bran and ispaghula as *treatment* of diverticular disease of the colon. We make no claims concerning the prevention of this disease, nor can we envisage any trial design capable of doing so, as Mr Robin Burkitt (9 May, p 1546) so ably states. Indeed, we have great respect and admiration for Surgeon Commander Cleave's work showing the dangers of highly refined carbohydrates.[1] Dr Vickery and Mr Burkitt fall into the all too common trap of confusing aetiology with treatment—the one does not necessarily follow from the other.

Dr J R Thornton's criticism (9 May, p 1546) of our trial is more serious. The "British average consumption of 19·9 g/day" of dietary fibre is calculated from a short-term study of a single Cambridgeshire village[2] and cannot be taken to be representative of the whole country. What is more, the "average" consumption of dietary fibre, whatever it may be, is irrelevant to the dose of fibre, or anything else, needed to treat diverticular disease; the important point is that our patients' basal intakes remained constant during the year's trial. The dose of fibre we chose was that with which we expected patients to comply—equivalent to two tablespoons of bran daily. This is the usually accepted dose in Britain, and it is very unlikely

that patients would take more over a long period.

Our patients improved on this "small dose of bran." Unfortunately for those uncritical of the "considerable claims made for dietary fibre," these patients also improved with the much lower dose of our "placebo" preparations. Dr Thornton must accept either that only a very small dose of fibre (not even increasing patients' intakes to the British average) is sufficient treatment or that there is a very great placebo effect—the "daily experience of successful treatment" described by Dr Vickery.

Finally, we agree that it is important to give sufficient bran or ispaghula to relieve straining and the amount will vary greatly between patients. We are not so convinced that the symptom of incomplete rectal emptying is relevant to constipation and even less sure of its relevance in diverticular disease of the colon.

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[1] Cleave TL. *The saccharine disease.* Bristol: John Wright, 1974.
[2] Bingham S, Cummings JH, McNeil NI. *Am J Clin Nutr* 1979;**32**:1313-9.

Pathologists and head injuries

SIR,—I felt that I must write at once to comment on your leading article (25 April, p 1344). I regret the inference which is so clearly to be drawn from the article—that forensic pathologists always examine fresh brains at once, at the original necropsy, under pressure "to move on to the next slab or to the next court hearing."

I would point out that in departments such as mine in Leeds it is very rare for a brain from a case of fatal head injury to be examined until it has been suspended and fixed for several weeks. Since such cases are frequently of suspected homicide it is obviously essential for the best possible examination to be carried out. The evidence which will be given in court, based on such an examination, will be tested by cross-examination fuelled by the opinions of other pathologists, who need to see the properly fixed material. Most coroners and senior police officers are nowadays well aware of the importance of such careful examinations to their investigations, and the views expressed in your article simply do not coincide with the practice of properly trained and experienced forensic pathologists these days.

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Amiodarone increases plasma digoxin concentrations

SIR,—We have read the report by Dr J O Moysey and others (24 January, p 272) of a possible interference with serum digoxin concentrations by amiodarone. Since our experience seems to be different,[1] we think that it is important to bring our results to the attention of your readers.

We determined the serum digoxin concentrations of 10 patients before and during the time that quinidine or amiodarone was combined with digoxin. None of these patients received other drugs able to interfere with digoxin metabolism. All the subjects were treated with digoxin (0·375 mg daily) for at least 10 days before the addition of antiarrhythmic drugs. Five patients had received quinidine sulphate (200 mg every 6 h) for 10 days more. Five had received amiodarone: 400 mg twice daily for five days, then 200 mg twice daily for another 25 days. While digoxin was combined with quinidine the serum digoxin concentrations were greatly increased, from $1{\cdot}04 \pm 0{\cdot}24$ to $2{\cdot}24 \pm 0{\cdot}73$ ng/ml (mean ± SEM) ($p < 0{\cdot}001$); our results confirm previous data about this interaction.[2,3] During treatment with amiodarone the serum digoxin concentrations did not change—they were $0{\cdot}95 \pm 0{\cdot}18$ before and $0{\cdot}98 \pm 0{\cdot}23$ ng/ml during amiodarone treatment; none of the patients developed manifestations of toxicity.

The reason for the discrepancy between our findings and those of Dr Moysey and his colleagues is not clear to us, but we think that further evaluations are required to determine the interaction of digoxin with amiodarone.

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[1] Achilli A, Giacci M, Capezzuto A, De Luca F, Guerra R, Serra N. In: *Proceedings of Third International Congress of Cardiology, Modena, October 1980* (in press).
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Medical education and the community

SIR,—I write to correct an error in your report (25 April, p 1406) on the list of motions passed by the 1981 Junior Members Forum, held at Lancaster University on 4 and 5 April.

The motion which I put, which was adopted as the forum's policy, was that "This forum advocates that all doctors should undertake six months' training in general practice as part of their general professional training." An amendment attempting to alter "six months" to "some" produced a tied vote and was therefore defeated.

Although the voting figures were close, it was heartening to see the degree of support for the proposal, which came from those hospital-based doctors who valued their medical experience obtained outside hospitals. Such a proposal, while seeking to balance medical education more equally between hospital and community-based disciplines, would enable all postgraduate trainees to understand more fully the problems encountered by their colleagues and would be a logical step towards a more general medical education prior to consultant appointment. This is now only readily available and mandatory for those seeking to become principals in general practice through the trainee schemes. Those who feel that such a proposal is not worth consideration, like those doctors who feel that accident and emergency SHO appointments are unrewarding and not useful to their careers, must answer the question "Do they really wish to care for people rather than treat disease in the abstract?"

The medical schools at Southampton and Newcastle upon Tyne have adopted a broader, more community-based curriculum than that of the more traditional medical schools. Unless the latter change their policies, it will still be possible many years hence for consultants to be appointed in Great Britain who have only a few short weeks, or less, undergraduate experience outside the hospital environment and maybe none at postgraduate level.

Six months is, I believe, the minimum period during which adequate experience of general practice can be obtained and the pattern of chronic disease management from the community-based standpoint appreciated. The value to the fully registered prescribing doctor and to many host practices would be great, providing an exchange of ideas and concepts which would help to keep the profession up to date and informed, thus improving the services to patients. This proposal, though creating great logistic problems initially, would provide continuing audit of the profession by the profession, and might also go some way to providing a partial solution to the present manpower difficulties in the hospital service.

The Southampton and South-west Hampshire Division of the BMA supports this idea; indeed, at a recent meeting a hospital consultant stated that he felt that the period should be one year and not six months. I shall look forward to further discussion of this proposal in your columns and elsewhere.

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**Dr Goodall is correct and we apologise for the error in reporting the motion.—ED, *BMJ*.

Bank holidays and the NHS

SIR,—Is it not time that we had a declaration of intent from the Department of Health and Social Security, together with all staff associations and trade unions within the Health Service, with regard to services provided in the NHS on public and bank holidays?

We recently have suffered the Easter break, whereby no non-emergency services were provided for over four days. This was followed two weeks later by the "May Day" holiday, which is soon followed by the "Spring Bank Holiday." On each of these occasions routine surgeries, clinics, and laboratory and other ancillary facilities are withdrawn. This does nothing but aggravate the already overstretched Health Service and increases the ever-lengthening waiting lists.

In these days of adequate holiday provision is there not a case for abandoning the concept of public holidays within the confines of the Health Service and adding these days, if necessary, to annual leave? It seems to me counterproductive to have all these extra statutory holidays at a time when the Health Service is being starved of resources, and I would hope that the British Medical Association would consider taking a lead in trying to give some sense of order where there is at the present an aura of chaos.

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