exposed to antigens of banal viruses such as influenza.[5 6] Macrophages from animals so sensitized constitute a faulty indicator system for human lymphocyte-P.P.D. interaction. We have, however, found that even with guinea-pigs which have not been rigorously shielded from "spontaneous" sensitization and so show clear evidence of sensitivity to E.F. and P.P.D. it is still possible to obtain positive results in the L.A.D. test if thyroid is used as test antigen for the human lymphocytes instead of P.P.D. Indeed, if the same M.S. lymphocytes are tested with both thyroid and P.P.D., then the high result characteristic of the disease is obtained with thyroid but not with P.P.D. Results with the latter seem to be randomly distributed depending upon a number of factors not as yet studied. Two examples from our protocols are set out in the table. It will be seen that when an animal which is not presensitized to E.F. and P.P.D. is used as the source of indicator macrophages the customary high result is found with both P.P.D. and thyroid. When, however, a presensitized guinea-pig is used for the macrophages then the high result is obtained only with the unrelated thyroid antigen.[1] All these experiments were carried out with the original macrophage electrophoretic mobility (M.E.M.) test.[2]

The importance of these results is that they (1) underline the need for the use of guinea-pigs free from "spontaneous" sensitization, (2) show that it is possible for those who do not have access to a protected source of anmials to carry out M.S. testing with thyroid antigen, and (3) explain the difficulties experienced by Foster *et al.* in their work with P.P.D.—We are, etc.,

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1 Foster, J. B., Mertin, J., and Thomson, A. M., *British Medical Journal*, 1974, **1**, 452.
2 Field, E. J., Shenton, B. K., and Joyce, G., *British Medical Journal*, 1974, **1**, 412.
3 Shenton, B. K., *British Medical Journal*, 1974, **1**, 574.
4 Field, E. J., and Caspary, E. A., *British Journal of Cancer*, 1972, **26**, 164.
5 Field, E. J., and Caspary, E. A., *Lancet*, 1972, **1**, 963.
6 Field, E. J., *et al.*, *Journal of the Neurological Sciences*, 1973, **17**, 179.
7 Field, E. J., *et al.*, *Lancet*, 1970, **1**, 1144.
8 Diengdh, J. V., and Turk, J. L., *International Archives of Allergy*, 1968, **34**, 297

All Change

SIR,—The light-heartedness implicit in the heading you award to Dr. H. R. Rollin's letter (9 November, p. 341) epitomizes an inadequate appreciation of the danger in a situation in which administration loses sight of its original purpose to improve the efficiency and efficacy of the artisans it administers and becomes an end in itself.

St. Mary's Hospital, Hampton, to which Dr. Rollin refers in his letter, has seen changes of catchment area within the past five years from Springfield Hospital to Horton Hospital and now again to Long Grove Hospital. These changes have taken place without any reference to local needs, requirements, or wishes, the only reason for them being a desire to tie in with boundaries of one kind or another. The time must surely come when the people affected by these administrative manipulations will simply refuse to co-operate any longer. Let the authorities therefore take notice of this warning and ensure that in the future adequate consultation takes place at *all* levels.—I am, etc.,

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**Neither we nor other long-suffering users of public transport ever hear the cry "All change!" with anything but a heavy heart. —ED., *B.M.J.*

Lincomycin and Clindamycin Colitis

SIR,—Your leading article entitled "Lincomycin and Clindamycin Colitis" (12 October, p. 65) discussed the incidence of pseudomembranous colitis occurring during therapy with the lincomycins. In our first report[1] 10 years ago of studies with lincomycin hydrochloride diarrhoea occurred in two out of 24 patients receiving the antibiotic. In a larger series[2] of 65 patients treated with lincomycin diarrhoea occurred in eight patients, but in only two was it severe enough to necessitate stopping treatment. Fifty-two of these patients had bone or joint infections. The mean duration of treatment in patients with acute osteomyelitis was 3·3 months and 5·4 months in those with chronic infections. More recently[3] we reported the results of treatment with clindamycin of 50 patients, only one of whom developed diarrhoea. A total of 129 patients were included in these three studies (10 patients were included in two of the reports) and diarrhoea occurred in only 11 (8·5%). It stopped immediately lincomycin or clindamycin was discontinued and in none was there evidence of pseudomembranous colitis.

To date we have treated a total of 50 patients suffering from bone or joint infections with relatively prolonged courses of clindamycin, the duration of therapy varying from six weeks to 12 months with a mean of 4·4 months. All were carefully observed for adverse reactions during therapy and followed up after treatment. Three (6%) had transient diarrhoea which cleared when the antibiotic was temporarily discontinued for 48 hours, but none developed pseudomembranous colitis.

Since our initial studies with lincomycin in 1963 and with clindamycin in 1969 we have now treated several hundred patients with these two antibiotics but have confirmed colitis associated with therapy in only one. This was in a 64-year-old man who developed diarrhoea while taking clindamycin for an ear infection. It is of interest that his wife developed diarrhoea before the onset of the patient's symptoms. The patient continued taking clindamycin after the onset of diarrhoea, and barium enema examination revealed ulceration of the ascending and proximal transverse colon. Treatment was started with salazopyrine, with satisfactory response and relief of diarrhoea.

Our experience with the lincomycins therefore differs from that of Tedesco and his colleagues,[4] who found an incidence of diarrhoea of 21% and of pseudomembranous colitis in 20 of 200 patients receiving clindamycin. Other investigators in the United States[5-7] and New Zealand[8] have reported a similar high incidence of diarrhoea and colitis during lincomycin or clindamycin therapy. The low incidence of both in our experience, even in patients receiving prolonged courses of clindamycin or lincomycin, suggests the possibility of a geographical difference in occurrence of these side effects such as has been reported with chloramphenicol. The simultaneous development of diarrhoea in the wife of our patient suggests that an infective agent could trigger off the diarrhoea which might then be perpetuated by clindamycin. In this context it would seem reasonable to avoid the linocomycins in patients with bowel disease and to warn patients to stop treatment immediately diarrhoea develops during lincomycin or clindamycin therapy. Care might also be taken in the elderly because of the possibility of ischaemic colitis or diverticulitis in this age group.—I am, etc.,

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1 Geddes, A. M., Sleet, R. A., and Murdoch, J. McC., *British Medical Journal*, 1964 **2**, 670.
2 Geddes, A. M., *et al.*, in *Proceedings of 5th International Congress of Chemotherapy*, 1967, p. 361.
3 Geddes, A. M., *et al.*, *British Medical Journal*, 1970, **2**, 703.
4 Tedesco, F. J., *et al.*, *Annals of Internal Medicine*. In press.
5 Benner, E. J., and Tellman, W. H., *American Journal of Gastroenterology*, 1970, **54**, 55.
6 Pittman, F. E., Pittman, J. C., and Humphrey, C. D., *Lancet*, 1974, **1**, 452.
7 Viteri, A. L., Howard, P. H., and Dyck, W. P., *Gastroenterology*, 1974, **66**, 1137.
8 Scott, A. J., Nicholson, G. I., and Kerr, A. R., *Lancet*, 1973, **2**, 1232

SIR,—We were interested to read your leading article (12 October, p. 65) and the subsequent correspondence. We should like to bring to notice the case of a woman who recently died here of this condition. The patient, aged 60, was admitted with gangrene of the toes and had to have her leg amputated after a femoropopliteal bypass operation had failed. She was treated for a chest infection with lincomycin and Kefzol for three days. Six days after the discontinuation of the antibiotics she developed severe diarrhoea, and sigmoidoscopy revealed complete involvement of the rectal mucosa by thick yellow plaques. Diarrhoea continued until she died of bronchopneumonia some days later. At necropsy histologically typical pseudomembranous colitis was found, involving the entire large bowel from ileocaecal valve to rectum.

Our patient was admittedly in poor general condition, but severe colitis can arise in much younger, fitter people and may lead to perforation or the need for resection. Your leading article refers to a number of previously reported deaths. We were disturbed to see that Mr. D. H. Wilson and Drs. W. J. Cunliffe and S. G. Tan (2 November, p. 288) are using these drugs for preoperative prophylaxis and acne vulgaris respectively. We agree with the implications of your article that they should be prescribed only for bacteroides infections or serious infections for which other antibiotics are not appropriate. This approach would do much to avoid unnecessary morbidity and mortality.—We are, etc.,

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