cord blood and from venous samples on days 4 and 7 in infants born after surgical induction of labour and intravenous oxytocin infusion. A control group of neonates was also studied. Haemolytic disease was excluded in all infants by appropriate investigation. The mean birth weight, gestational age, incidence of operative delivery, and breast-feeding on discharge was similar in both groups. The results are summarized in the table.

	Mean Biliburin in mg/100 ml ± S.E.M.		
	Cord	Day 4	Day 7
Oxytocin Group N = 13	2·308 ± 0·233	5·285 ± 0·94	3·69 ± 0·91
Control Group N = 14	2·507 ± 0·277	5·35 ± 0·8	3·50 ± 0·560

The mean total bilirubin in cord blood was lower in neonates delivered after oxytocin-induced labours, but this difference was not statistically significant. No difference between mean bilirubin levels on days 4 and 7 was apparent. Furthermore, we could find no correlation between the total dose of oxytocin infused and neonatal bilirubin levels.

Though the results of our study are in conflict with the authors' findings, we would endorse their view that any possible association between maternal oxytocin infusion and neonatal jaundice should be viewed in the proper perspective, and a small rise in bilirubin level is unlikely to be of importance in a healthy term baby of normal birth weight.—We are, etc.,

D. C. DAVIDSON
J. A. FORD
W. MCINTOSH

Departments of Medical Paediatrics and Biochemistry,
Stobhill General Hospital,
Glasgow

Congenital Syphilitic Nephropathy in an Adopted Infant

SIR,—In view of the rising incidence of syphilis, the current interest in congenital syphilitic nephropathy, and recent moves to change screening procedures for adopted children, we would like to report an instructive case.

A 16-week-old illegitimate boy awaiting adoption was admitted to this hospital for investigation of haematuria and proteinurea. His natural mother was apparently well, the pregnancy and delivery were normal, and a maternal Wassermann reaction at eight months' gestation was reportedly negative. Neonatal examination had been normal, but subsequently there were feeding difficulties. At the age of 13 weeks he developed proteinuria and haematuria following an upper respiratory infection.

Examination revealed hepatosplenomegaly and moderately enlarged kidneys but no oedema, lymphadenopathy, or snuffles. Hypoalbuminaemia, heavy but highly selective proteinuria, raised plasma IgM levels, and femoral subperiosteal new bone formation were present. Serum cardiolipin W.R., Reiter complement fixation test, *Treponema pallidum* immobilization test, serum V.D.R.L. slide test, and IgG and IgM fluorescent treponemal antibody tests were all positive.

A diagnosis of congenital syphilitic nephritis was made and the patient was successfully treated with a three-week course of procaine penicillin. The natural mother was traced and found to have no clinical evidence of syphilis but weakly positive serology. She was given a course of penicillin treatment. The prospective adoptive parents' serology was negative, and in spite of this illness they have subsequently adopted the child.

In this case maternal exposure to infection ceased after the child was conceived and no antibiotic was administered during pregnancy. At eight months' gestation maternal serology must have been positive and the negative W.R. was either an error or reflected an insufficiently sensitive test. For routine screening the V.D.R.L. slide test would seem preferable, and in those at particular risk repeating it in the last trimester, with a subsequent test for cord-blood IgM fluorescent treponemal antibody, would seem to be indicated.

In the light of this case we wish to emphasize the need to consider syphilis in infantile nephritis or nephrosis, even with a negative prenatal history, and feel that the medicosocial implications of failure to achieve antenatal diagnosis in a subsequently adopted child justifies careful reappraisal of syphilitic screening procedures in pregnancy.—We are, etc.,

M. J. DILLON
D. F. DUFF

Hospital for Sick Children,
Great Ormond Street,
London W.C.1

Infantile Herpes Zoster

SIR,—In reply to Dr. G. D. W. McKendrick and S. C. Raychoudhury (11 August, p. 352), we regret omitting any reference to their paper.[1] This was not intended to mislead, but in the space available in a short annotation it was not possible to refer to all the relevant literature.

The special importance of our case of herpes zoster in a young child was not only the exposure to varicella in utero but also the virological confirmation of the diagnosis, which is absent from most similar published reports. In stating the two hypotheses for the pathogenesis of herpes zoster we merely wished to indicate that both are considered possible by some.[2,3]—We are, etc.,

I. K. LEWKONIA
A. A. JACKSON

University College Hospital,
London W.C.1

1 McKendrick, G. D. W., and Raychoudhury, S. C., *Scandinavian Journal of Infectious Diseases*, 1972, **4**, 23.
2 Berlin, B. S., and Campbell, T., *Journal of the American Medical Association*, 1970, **211**, 1831.
3 Horsfall, F. L., and Tamm, I., *Viral and Rickettsial Infections of Man*, 4th ed. p. 918. London, Pitman, 1965.

Muscle Cramps during Maintenance Haemodialysis

SIR,—We welcome the paper by Dr. G. R. D. Catto and others (18 August, p. 389) on the treatment of muscle cramps in haemodialysed patients with Slow Sodium tablets. The neglected problem of dialysis cramps is now beginning to receive the attention it deserves.

With reference to their data, however, we should like to point out that a reduction in the mean frequency of cramps from 54·7 to 40·7%, though statistically significant, is perhaps less significant to the patients, as 40% is still considerably troublesome. It is also perhaps misleading to express the difference of 14% as a percentage of the 54·7% and refer to this as a "reduction of 26%." Most people would be inclined to call a change from 54·7 to 40·7% a reduction of 14%. The same criticism applies to their description of the change in severity from 5·4 to 3·8 arbitrary units as a "reduction of 30%." Moreover, judgement of the severity of the cramps, when related to a 10-point scale, must have been difficult for the patients. Within so wide a scale a change from 5·4 to 3·8 units must have been small in terms of the relief afforded.

Notwithstanding the marginal nature of the improvement, Dr. Catto and his colleagues claim that the administration of up to 14 tablets of Slow Sodium on each dialysis day is a better way of controlling cramps than "an increased sodium concentration in the dialysate for all patients." We, on the other hand, recommend[1] the use of isonatric dialysis (dialysate sodium concentration of 145 mmol/l.), combined with appropriate ultrafiltration. Isonatric dialysis with controlled ultrafiltration brought about a reduction in the incidence of cramps from 55% to 13% in our patients,[2] and the current incidence is $< 15\%$ (extreme range per patient nil to 35%). Thus, the frequency of cramps is noticeably greater using the conventional dialysis, even with Slow Sodium, than when using controlled isonatric ultrafiltration.

Isonatric dialysis is compatible with complete and satisfactory control of blood pressure.[3] In fact, hypertension has not been a problem, either long-term or short-term, despite what might seem to some as more adverse clinical conditions in Dundee—namely, only 16 to 18 hours of total dialysis time per patient per week, divided into two sessions. The inter-dialysis weight gain of 3 to 5 kg is partially a consequence of the restricted dialysis time available. Contrary to the belief of Dr. Catto and his colleagues our patients do not complain of thirst; they revert to near normal, old-established, patterns of fluid intake. Medical injunctions to alter eating and drinking habits may work in the short term but are rarely effective for long.

Dr. Catto and his colleagues seem to value the ability to "tailor" the number of tablets to each individual patient's needs, but the practicalities of tailoring the number to individual needs (presumably retrospectively) could be difficult in a busy dialysis unit. The prospect of swallowing up to 14 tablets each dialysis seems daunting to us. Multiple pill-swallowing is also surely more prone to error than the use of a standardized dialysate composition which, with a "physiological" concentration of sodium, has proved in our experience to be suitable for all patients. Certainly it seems contradictory to be deliberately removing sodium from the patient with one hand (dialysis with low sodium concentrations) while feeding him sodium with the other. It would have been interesting to know the plasma sodium concentrations of their patients and how often it was monitored. Even 24 hours after dialysis using a dialysate sodium concentration of 135 mmol/l., plasma sodium concentrations can be as low as 131 to 133 mmol/l.[4]

We continue to believe that, in the course of haemodialysis treatment, the removal of accumulated dietary sodium is most easily accomplished by the net transfer of the "surplus" extracellular fluid during controlled isonatric ultrafiltration.[1] This single process can be closely monitored during dialysis through the parallel change in body weight. A concomitant of this straightforward technique is a marked reduction in the prevalence of dialysis cramps. The conventional approach with hyponatric dialysate (sodium approximately 130 mmol/l.) involves the unmonitored dialytic transfer of

sodium as well as ultrafiltration-induced movements of sodium and of water across the dialyser. Conventional hyponatric dialysis is thus inherently more difficult to control clinically, and would seem even more so when combined with individualized oral doses of Slow Sodium as advocated by Dr. Catto and his colleagues.—We are, etc.,

W. K. STEWART
LAURA W. FLEMING

Department of Medicine,
The University,
Dundee

1 Stewart, W. K., Fleming, L. W., and Manuel, M. A., *Proceedings of the European Dialysis and Transplant Association*, 1972, **9**, 111.
2 Stewart, W. K., Fleming, L. W., and Manuel, M. A., *Lancet*, 1972, **1**, 1049.
3 Stewart, W. K., and Fleming, L. W., *Postgraduate Medical Journal*. In press.
4 Craswell, P. W., Hird, V. M., Baillod, R. A., Varghese, Z., and Moorhead, J. F., *British Medical Journal*, 1973, **2**, 741.

The Magic Diploma

SIR,—Professor James H. Hutchison, in his Personal View (4 August, p. 288), expressed a view that is of great concern and interest to doctors from the developing countries.

While the problem is particularly related to the M.R.C.P., the F.R.C.S., and M.R.C.O.G., diplomas are desired by the majority of doctors from developing countries, because of possible new techniques and knowledge. On the other hand, if teaching centres were to be established in the developing countries, there would be more opportunities for many tropical doctors to acquire the basic skills in more fields than they would do in Britain. Britain is a small country expected to cater for a large number of postgraduates in surgery, obstetrics, gynaecology, and medicine, while the vast materials and opportunities available in the developing countries are left untapped. Clearly, only a very small minority of doctors from developing countries who acquire their postgraduate diplomas from Britain can claim to have had good clinical experience and opportunities of the type they had hoped for. Furthermore, most of them, "while they may become more aware of the importance of good history taking and clinical examinations, the right kind of doctor/patient relationship, the mutual respect which should exist between nurses and doctors, and the value of the health visitor and the social worker . . . concentrate more on the advances of 'Modern Medicine'." The former, which is of great importance and the one that becomes most useful on their return home, should be given as much attention as the latter.

Finally, I must add that postgraduate doctors from developing countries in search of diplomas do not enjoy the disruption of their families as a result of leaving their homes. It will be well for developing countries who are interested in the medical progress of their countries to carry out a true survey into the suffering and frustration of their "silent" doctors in Britain and elsewhere and this may, among other factors discussed by Professor Hutchison, help to increase the need for the development of postgraduate centres in these countries.—I am, etc.,

D. O. OGUNSEINDE

St. Ann's General Hospital,
London N.15

SIR,—I read with interest Professor James H. Hutchison's "Personal View" (4 August, p. 288). It really was thought-provoking, and lucidly states the conditions of foreign doctors in Britain.

Being an Indian myself, I endorse some of the points raised by Professor Hutchison. However, I disagree with one statement most strongly, that being: "The Indian graduates who come unsponsored to the United Kingdom today tend to be those who have not made the grade in their own centres." I am sure there are many other reasons which have escaped the attention of the professor.

Firstly, the glamour of British qualifications still carries much weight in Indian society. This is a sad relic of our colonial past. Even a layman in Indian society seems to think that an F.R.C.S. is much superior to an Indian M.S. or M.D. This surely is a wrong conception, which fortunately is being rectified in most states of India by giving preference to local M.D. or M.S. postgraduates to foreign qualified doctors.

Secondly, the postgraduate educational system in India is very different from here, there being no free access to examinations as is the case in this country. Every Indian university has a very limited number of seats for M.D. or M.S. in all branches of medicine, so, naturally they cannot cater to the needs of so many young aspiring doctors who would like to take these examinations. Moreover, though in many cases the doctors are given seats for these examinations, they are not given any financial help—in other words, they are treated as supernumerary candidates. For these reasons so many young doctors, unsuspecting and unaware of the conditions, flock to Britain, which they find is no longer a promised land. Since a majority of doctors come over here within a year or two of graduation, they have certainly had no time to make the grade in their own centre, let alone fail.

What I would like to see is better organization of medical education in India so that there will be no need for young doctors to leave their own country and waste valuable years in pursuit of elusive British degrees, which are of secondary value when they return to India.—I am, etc.,

K. RAGHAVAN

Edinburgh

SIR,—I wish to comment on Professor James H. Hutchison's Personal View (4 August, p. 288), and on Dr. M. D. Miller's letter (1 September, p. 503), on the above.

The M.R.C.P. so far as I know, is a test of the principles of fundamental medicine, and knowledge of the complexities quoted—for example, radionuclides, gamma cameras, chromosome abnormalities, radioimmunoassay, etc.—is not essential to pass the exam. As one with the M.R.C.P. who comes from, and has worked continuously for many years (including in what some people call "bush stations") in a developing country, I found the possession of this diploma most useful. I do not agree with Professor Hutchison that it is "designed to meet the needs of British medicine" only, since with increasing knowledge of the natural history of disease and diagnosis there are no frontiers political or national in medicine. Further, I wish to point out that doctors from developing countries with the M.R.C.P. are appointed specialists on return to their homeland only after prescribed years of local experience and apprenticeships and the M.R.C.P. is not worshipped as possessing magic powers.

I am sure that Professor Hutchison wrote in the interest of these countries, but surely the medical authorities and schools there, with their considerable local experience and knowledge, are capable of deciding what is good for them? It is only a question of time for these newly independent countries to solve their medical problems, but in the meantime they need all the friendliness and help from the developed countries. In the report[1] of the Director General of W.H.O. for 1972, the Minister of Health of Sri Lanka (Ceylon) is quoted as saying: "It is indeed a matter for regret that though amazing advances in medical research have been made in many fields, elementary sanitary conditions conducive to healthy living, appreciated nearly a century ago, are still denied to vast populations in many developing countries, including my own."—I am, etc.,

A. F. TUBOKU-METZGER

Mitcham, Surrey

1 Ariyadasa, W. P. G., *World Health*, September 1973, p. 30.

Co-trimoxazole in Bubonic Plague

SIR,—In the course of experimental studies conducted in 1971 with 50 strains of *Pasteurella pestis*, it was found that all these strains were highly sensitive to the combination of trimethoprim and sulphamethoxazole (co-trimoxazole). Trials in vivo in the mouse with this combination also gave positive results. Four clinical strains of *P. pestis* were inoculated into groups of 10 mice each. Solutions of $\frac{1}{2}$, 1, $1\frac{1}{2}$, and 2 tablets of co-trimoxazole (each tablet containing 80 mg of trimethoprim and 400 mg of sulphamethoxazole) in 100 ml of water were prepared and compared in the experiment with plain water. These solutions were given in place of drinking water to the mice, grouped in pairs for each drug concentration, two days before inoculation and during the whole trial. All the untreated control mice died 4-7 days after inoculation. All those which received co-trimoxazole survived the follow-up period of two weeks.

These experimental results led us to conduct a therapeutic trial of co-trimoxazole in cases of plague in man. Twelve patients suffering from bubonic plague (three with demonstrated septicaemia) were included in this study. The patients were admitted to hospital on day 1 (four cases), day 2 (four cases), day 3 (one case), day 4 (two cases), and one week after onset of the disease (one case). The diagnosis was based on clinical and epidemiological evidence and in six cases it was confirmed bacteriologically. Blood culture was positive in three cases.

The specific treatment lasted for 5-11 days in cases of uncomplicated bubonic plague and for 15-17 days for those with septicaemia. Co-trimoxazole was administered to these patients as the only antibacterial agent; the standard dose was two tablets twice daily, but some patients received somewhat higher doses (see table).

Apyrexia was obtained after two days (in six cases), three days in two, four days in