

taneously without requiring pacing and that the majority of patients with anterior myocardial infarction do badly whether they are paced or not. Our figures and those of the authors whom we quoted lend some support to this belief but they do not prove the point. Our present policy continues to be relatively conservative, pacing only those patients in whom drug therapy is unsuccessful. It is apparent from Dr. Benaim's last paragraph that there is not, in fact, a marked difference of opinion between his views and ours.—We are, etc.,

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1 Sowton, E., Leatham, A., and Carson, P., *Lancet*, 1964, 2, 1098.

Cranial Nerve Palsy in Tetanus

SIR,—The report of facial palsy in tetanus by Drs. M. Mishra and B. N. Sinha (19 August, p. 475) prompts us to record palsy developing in a nerve very rarely implicated in tetanus, the trochlear nerve.

A man aged 20 stood on a rusty nail and reported soon afterwards for treatment. He was given a course of procaine penicillin and 2 ml of tetanus toxoid, but eight days after the event he presented with trismus, rigid abdomen, and neck stiffness. He was treated with 50,000 units of tetanus antitoxin, 1 mega unit of crystalline penicillin six-hourly, and 10 mg of diazepam six-hourly intramuscularly. After seven days the diazepam was stopped and he was given chlorthalidone orally. The trismus and rigidity responded slowly but no opisthotonos developed and the temperature remained normal.

Left-sided ptosis was noted on the 14th day and the patient stated that he had been seeing double for a few days; he gave this as a reason for keeping his eye closed and indeed appeared to have no difficulty in opening the eye and keeping the upper lid elevated. He also had some difficulty with swallowing. There was a lag in the downward and outward movement of the left eye. This was associated with diplopia which did not occur on conjugate deviation upwards or to the right. He thus had palsy of the trochlear nerve, possible ptosis, and evidence of bulbar palsy. By this time trismus had virtually disappeared. Dysphagia resolved within three days and the ptosis became even less evident, but diplopia and superior oblique weakness remained until he was discharged a fortnight later. At the first review after a week diplopia had vanished.

Park¹ in a description of seven cases of "cephalic tetanus" reported facial nerve involvement in six, the seventh patient having ptosis and hypoglossal palsy. He also records the occurrence of oculomotor palsy, paralysis of upward gaze, dysphagia, and nystagmus. In reviewing the literature he found that out of 194 cases ptosis was present in 22 and some degree of external ophthalmoplegia in nine. The predominant lesion was seventh nerve palsy.

Isolated paresis in a condition otherwise characterized by hypertonic overactivity of muscles is an intriguing problem. We had considered the possibility of an iatrogenic aetiology since mephenesin is known to produce diplopia occasionally. However, diplopia is not regarded as a side effect of diazepam therapy and it would be difficult to explain the unilateral facial palsy, which

is the commonest manifestation of cephalic tetanus, on this basis.

Drs. Mishra and Sinha postulate that palsy develops because of a high concentration of toxin in motor end plates. They do not state where their patient's injury was, but we assume that it was on the face or nearby. Injury to the head or neck used to be part of the definition of cephalic tetanus, but this is no longer accepted and in our case the wound was in the ball of the foot. It is difficult to imagine toxin travelling centripetally along nerve fibres from the foot, diffusing through the spinal cord, sparing the medullary centres, and picking out isolated motor nuclei in the brain stem.—We are, etc.,

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1 Park, D. M., *Journal of Neurology, Neurosurgery, and Psychiatry*, 1970, 33, 212.

Mode of Action of Verapamil

SIR,—Commenting on the drug verapamil, Dr. Brian Livesley and others (17 February, p. 375) state that "its exact mode of action is not known, but it can abolish the tachycardia induced by both isoprenaline and atropine." The reference which they quote in support of this statement is to unpublished observations made in dogs.¹ On the basis of this "evidence" they imply that verapamil acts, at least in part, by blockade of β -adrenoceptors.

This would appear to ignore and contradict the published information about the effect of verapamil in man.² In four subjects given 80 mg of verapamil orally the reduction in an isoprenaline tachycardia was similar to that obtained with a placebo, in contrast to the abolition of an isoprenaline tachycardia produced by 20 mg of propranolol. In addition, 80 mg of verapamil failed to reduce the tachycardia produced by severe exercise in six subjects. These results indicate that in man verapamil does not block adrenergic β -receptors.—We are, etc.,

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1 Oram, S., Catley, P. F., Livesley, B., and Kidner, P. H., *British Medical Journal*, 1971, 4, 113.
2 Grant, R. H. E., McDevitt, D. G., and Shanks, R. G., *Lancet*, 1968, 1, 362.

Gateshead Tuberculin Survey

SIR,—Springett¹ suggested the need for one good tuberculin survey in Britain to determine a rational policy for the future use of B.C.G. vaccination on a community basis. Such a survey has already been started under Dr. Ian Sutherland's direction by the Medical Research Council.

Springett speculated that 7½% of 12-year-old children might be Mantoux positive. In recent years our routine surveys in Gateshead have shown a lower figure, and in 1970 the proportion positive by the Heaf test was of the order of 1%—this is a borough which for many years showed the highest incidence of tuberculosis in England. We therefore decided to conduct a careful

Mantoux survey in 1972. We used the M.R.C. preparations of human and Battey tuberculin, one in each arm. The results recorded were analysed by the M.R.C. Statistical Research and Services Unit. Their criteria were used to determine whether the results indicated a previous infection with human tubercle, with atypical mycobacteria, or with both, or with neither. Two age groups were tested—6 and 12 years. A selection was made, so far as possible, of schools representing a cross-section of social groups living in Gateshead. Acceptance rates were uniform in the various schools.

The total population concerned at age 6 was 1,563. We offered special testing to 564 (36%) and 481 accepted, but because of illness or other absence only 414 were tested—26.5% of the total age group. Of these four were positive to human tuberculin. All four had previously been given B.C.G. Two were positive to Battey tuberculin (0.5% of the children tested) and neither of these had had B.C.G.

There were 1,378 12-year-olds and we offered tests to 729. Of these 631 accepted, but because of illness or other absence only 571 were tested—41.4% of the total age group. Eight (1.4% of the children tested) were positive to human tuberculin. One of these had previously been treated for tuberculosis. Nine were positive to Battey tuberculin (1.6% of those tested) and one of these had had B.C.G.

This low tuberculosis infection rate among children is occurring in a town which still has a notification rate of over twice the national average, even though immigration into the borough is very low. Clearly we cannot be sure, even though we took a large sample, whether our figures are representative of the whole population, as we tested only 1,000 of the 1,300 offered testing, but we cannot help feeling that when the national survey figures do become available the end of mass B.C.G. vaccination may be in sight. We have already decided that skin testing 5-year-olds as a routine is no longer justified. It also seems to us of considerable interest that positive reactions to Battey tuberculin are more common than those to human tuberculin in a town as closely built up as Gateshead.

We are grateful for the advice and help of the M.R.C. tuberculin survey team, and to Dr. J. S. Greener for his independent reading of the results. The survey could not have been carried out without the co-operation and help of the Gateshead schoolchildren, their teachers, and the staff of the Gateshead Health Department.—We are, etc.,

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1 Springett, V. H., *Tubercle*, 1971, 52, 136.

Pregnancy after Hysterotomy

SIR,—The conclusion reached by Drs. W. M. Clow and A. C. Crompton (10 February, p. 321) that there is a substantial risk of uterine rupture in pregnancy after hysterotomy is reinforced by a case recently under my care.

The patient, an unmarried 16-year-old, had had her first pregnancy terminated by abdominal hysterotomy at another hospital when she was

14 years of age. She was admitted to this hospital at 38 weeks' gestation (before the onset of labour) with signs and symptoms suggestive of intra-abdominal haemorrhage. At laparotomy the upper end of the "classical" hysterotomy scar had ruptured completely and a portion of the underlying placenta was protruding through it. There was about 2½ l. of fluid and clotted blood in the peritoneal cavity. Caesarian supravaginal hysterectomy was performed and both mother and child survived, but the former required blood transfusions totalling 3 l.

While fully agreeing with the authors' suggestion that hysterotomy should in general be eschewed unless sterilization is also performed, there may be circumstances in which hysterotomy is urgently indicated but sterilization is undesirable. In such cases, if the operation is performed after the 18th-20th week, the lower uterine segment is often sufficiently developed to permit evacuation through a transverse incision at this level. It would seem likely by analogy with classical and lower segment caesarean section incisions that the risk of uterine rupture in a subsequent pregnancy will be considerably reduced by this technique, which I now use whenever possible instead of the vertical upper segment incision usually employed for hysterotomy.—I am, etc.,

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Loin Percussion in Acute Pyelonephritis

SIR,—I wish to draw attention to the value of loin percussion in the diagnosis of acute pyelonephritis in general practice. Indirect percussion with a clenched fist is begun over the scapula and is continued downwards, with reduced force, over the loin. The demonstration of loin tenderness, and by implication tenderness of the kidney, is readily performed without requiring the patient to undress or lie down. Percussion is used on patients either with symptoms of urinary infection or with abdominal pain and nausea. This is often the only positive clinical sign in acute pyelonephritis, since fever is often intermittent and may be absent at the time of examination.

During a three-year study of women with bacteriuria in general practice loin tenderness was found in 18 out of 102 women with symptomatic urinary infection. A diagnosis of acute pyelonephritis was made in these 18 women, all of whom gave a history suggestive of fever and had loin pain. Fever at the time of examination was found in only eight women. The other 84 were diagnosed as cystitis. When the patients were investigated at least one month after diagnosis renal function was impaired in women with acute pyelonephritis when compared with the cystitis group. Urine concentrating ability was tested by 15 hours' overnight fluid deprivation. Abnormalities, including minor faults of the pelvis and calyces, were seen in 75% of 16 intravenous pyelograms in women with acute pyelonephritis and in 4% of 23 women with recurrent bacterial cystitis.

Hence the presence of loin tenderness in patients with bacterial urinary infection delineates a group of acute pyelonephritics who are likely to have abnormalities of renal function and structure. This sign can be rapidly elicited even in the often hurried

atmosphere of routine general practice.—I am, etc.,

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Earnings of General Practitioners

SIR,—If Dr. D. J. Anderson and his colleagues (3 March, p. 554) care to flick over the pages to the advertisement section of the *B.M.J.* they will see under the heading "Partnerships Available" column numerous offers quoting incomes "at parity" in the range £7,000-£10,000 per annum. If they make inquiries of the B.M.A. Personal Services Bureau they will learn that these figures refer to the income available to the incoming partner after deduction of practice expenses. They will also note that this sum is achieved generally before the age of 30, whereas the top whole-time basic consultant salary of £7,350 is not reached until the age of 45. The general practitioner will have further personal professional expenses (motor car, telephone, etc.) for which he can whereas the top whole-time basic consultant also has these expenses, but does not receive tax relief. The figure of £5,500 per annum quoted in their letter is the projected average income which the Review Body considered the general practitioner should receive in 1972. We in the Regional Hospitals' Consultants and Specialists Association are in wholehearted agreement when they suggest that it is difficult to believe that income tax reliefs "could increase a family doctor's income by £1,500" or that "it would be possible to earn £3,000 per annum outside the N.H.S." Maybe this income comes from within the N.H.S. Unless the doctors from Teesside wish to challenge the advertised figures, perhaps they will agree that the Review Body has in fact done its sums wrong and by quoting "projected" and "average" earnings has under-estimated the real earnings by some £2-3,000 per annum. They will, of course, have noted the impressive increase in the numbers of general practitioner principals in the last two years and they will be dismayed to learn that this has been matched by the numbers of unfilled consultant posts rising from about 500 in 1970 to 800 in 1971 and probably to over 1,000 today. In our view this movement in medical manpower is related directly to remuneration prospects.

The main concern of the R.H.C.S.A. in this particular field is not only to ensure a fair rate of remuneration for the basic grade regional consultants, but we hope that by so doing we will also ensure that senior hospital posts continue to be filled by suitably qualified doctors. We applaud the general practitioner's 150% increase in income since 1965. But we hope the Teesside doctors will not begrudge the efforts of the R.H.C.S.A. in our attempts to match that success. After all, our interests are also very much their interests.—I am, etc.,

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SIR,—Dr. D. J. Anderson and others (3 March, p. 554) must be very naive to think that the regional consultants will express any

sympathy for his letter. He and his colleagues have only to read the advertisements in the same issue of the *B.M.J.* (pp. xxii and xxiii) to realize that nearly every practice offers more than the salary of a full-time consultant to start with, and much more at parity. The parity offered by 11 practices well exceeds the salary of a full-time consultant with maximum increments.

Who is telling the truth?—I am, etc.,

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Management of the N.H.S.

SIR,—It is to be hoped that Dr. D. G. Ferriman's concept (24 February, p. 492) of the district management team in the re-organized Health Service proves to be false. He describes it as consisting of four administrators and two clinicians, the implications being that the attitudes and objectives of these two groups are different and hence the composition of the team should be adjusted to redress the balance between "them" and "us."

The team could with equal accuracy be described as consisting of four members of the caring professions (three doctors and one nurse) and two others, but this distinction is equally invidious. All six will in fact be administrators with the shared objective of endeavouring to ensure that available resources are used in such a way as to achieve the best possible outcome in terms of patient care. Each member will contribute his or her particular knowledge and experience to this end, and decisions will be reached by consensus. Those which affect the clinical care of patients will surely be made largely on the advice of the clinical members of the team.

Whether or not the new administration at district level is successful will depend on the way in which the management team functions. If it meets in a spirit of constructive co-operation, then the prognosis is good. The N.H.S., and hence patient care, will not be served by the perpetuation of out-dated interprofessional distrust.—I am, etc.,

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London Pride?

SIR,—I was disturbed to read an advertisement in the *B.M.J.* (10 February, p. xlvii) asking for applicants for the post of surgeon in Aden, required by the British Petroleum Company. Part of this advertisement states that candidates' experience should include "time spent [as a senior registrar] in a London teaching hospital." This surely negates not only the efforts of the Joint Committee on Higher Surgical Training, the Royal Colleges of Surgeons, and the Association of Professors of Surgery, but also your own past policy. In the *B.M.J.* of 5 June 1971, at page 543, you stated in a leading article: "The sooner we have a unified system of [surgical] training throughout the British Isles the better."—I am, etc.,

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