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for a place for his son in a medical school, his son having passed "A" levels (not at his first attempt), with one B and two Ds. I have heard of several medical colleagues whose sons or daughters have failed to get into a medical school because they did not get high enough grades at "A" level.

What are we training doctors for? Are they all destined to become high-grade specialists or Fellows of the Royal Society? Doctors in general practice do not require an esoteric high-brow intellect, yet nearly half the graduates are destined for general practice. They require patience, humanity, common sense, and an ability for hard work in the field.

I have favoured the training of the sons of doctors in the profession and it used to be the practice in Britain. I suggest that it is high time that we returned to it.—I am, etc.,

N. GEOFFREY NICHOLSON
Ashford, Middlesex

Anaesthetic Safety Devices

SIR,—I most strongly disagree with the point of view expressed by Mr. Oliver Dearlove (10 November, p. 360). I do not consider that a pupil doctor is of any great benefit to one's training—indeed it all too often leads to the case of a son being expected to follow in his father's footsteps, even when he is not strongly motivated. This can lead to unfortunate failures and a wastage of valuable medical school places.

Furthermore, although "A" level results may not be the best guide, they are a good standard. I fail to see why, if somebody cannot get a place by normal methods—that is, the Universities Central Council on Admissions (where interviews usually are taken into account)—his father's position and willingness to finance advertising should entitle him to any advantages.—I am, etc.,

CHRIS NORTH
Medical Faculty, University of Sheffield

Ambulance Personnel

SIR—In the report (3 November, p. 229) of our evaluation of pressurized aerosol usage in the Royal Navy, it is suggested that we impose a further restriction on the use of these preparations. We believe that this is not essential.

We consider that safety is a Public Health responsibility and it is not desirable to place the burden of this upon the ambulance personnel. They are already responsible for ensuring that those who use these preparations are suitably trained and supervised. We believe that the Ministry of Defence should be responsible for ensuring that these preparations are made available for use in a suitable manner.

We have maintained a high level of confidence in the use of these preparations and we consider that they are an important addition to our treatment of asthma. We believe that they should be made available to all asthma patients as soon as possible.

We would like to point out that there is provision for ambulance men who have obtained the Diploma of the Institute of Certified Ambulance Personnel on the Board of Registration of Medical Auxiliaries.

I would like to point out that there is provision for ambulance men who have obtained the Diploma of the Institute of Certified Ambulance Personnel to obtain admission to the National Register of Medical Auxiliary Services of the Board of Registration of Medical Auxiliaries at B.M.A. House. It is true that this is a small beginning, but all paramedical professions had to start somewhere and I believe that such a recognition of training and qualification will be greatly to the advantage of ambulance men from a professional point of view.

Physiotherapists, occupational therapists, chiropodists, and others who have comparably intimate contact with patients originally registered in this way but are now recognized on the Statutory Register of Professions Supplementary to Medicine. Such graduation is the essential function of the Board.

Doctors should encourage in ambulance men a professional attitude at all times; this begins by recognizing their importance and enhancing their pride in professional status.—I am, etc.,

REGINALD ELSON
Woodsetts, Near Worksop, Notts.

Aerosols and Asthma Deaths

SIR—It is usually assumed that the decrease in the number of deaths from asthma which followed the official warning about pressurized aerosols containing sympathomimetic drugs was due to the stricter controls on the supply of these aerosols. This hypothesis has, however, been questioned by several authorities. Another possible explanation for the decrease in mortality after the warning was issued could have been a change in the attitude of general practitioners to the treatment of asthma, and this may have been the reason why more patients with asthma were admitted to hospital at that time, and why there was an increase in the number of prescriptions for corticosteroid drugs, which could both have contributed to the reduction in mortality. It is apparent from the recent correspondence in these columns that there is no convincing evidence to incriminate pressurized aerosols as a major cause of death in asthmatic patients.

Though the reasons for the reduction in asthma mortality are not clear and may not be directly related to the decreased use of pressurized aerosols, it is obvious that we must constantly endeavour to ensure that our patients do not overuse pressurized aerosols of any type. We must not, however, deny them this most efficient method of bronchodilator drug administration. Ever since the possible association of increased deaths from asthma and aerosols was suggested many doctors have been encouraged to prescribe pressurized aerosols because of the fear that they may be used indiscriminately. As a result, oral sympathomimetic amines are frequently prescribed, sometimes in combination and in massive doses, in an attempt to control asthmatic symptoms which could be more rapidly and effectively relieved by the same drugs in much smaller doses if given by aerosol. Pressurized aerosols are often reserved for patients with severe asthma because of their potential dangers, and patients with less severe symptoms are often treated with oral therapy. It is, however, wrong to withhold inhalers from patients with mild asthma as this is denying them the most efficient method of relieving their symptoms, and with such patients there is little or no danger of inhaler overuse as their symptoms are not likely to be distressing enough to encourage it.

The risks of toxic effects from oral sympathomimetic drugs have been over-looked. Salbutamol, the most widely used bronchodilator drug, is manufactured in two tablet strengths, 2 mg and 4 mg, and these are commonly prescribed in preference to the pressurized aerosol, which delivers 100 g of salbutamol per dose. Surely it is irrational to prescribe any drug by mouth in a dose which is 20 or 40 times larger than the effective dose by inhalation. Even more difficult to justify is the concurrent use of sympathomimetic amines like salbutamol by mouth and by inhalation.

Dose for dose, inhaled salbutamol is cheaper, more rapid in action, more effective, and has less undesirable side effects than oral preparations. The medical profession has perhaps been alarmed by the continued debates about the potential dangers of aerosols in asthma and has tended to favour the use of oral sympathomimetic drugs in preference to the pressurized aerosol. There is, however, only one indication for the use of oral sympathomimetic amines in asthma—when, for any reason, a patient is unable to use a pressurized aerosol.—I am, etc.,

GRAHAM K. CROMPTON
Respiratory Diseases Unit, Northern General Hospital, Edinburgh


Relapsing Polychondritis and Pulseless Disease

SIR—With reference to your leading article on "Relapsing Polychondritis" (16 June, p.
627), all earlier workers failed to demonstrate specific antibodies in the serum of patients.14 Even Hermans' group,5,9 as you mention, failed to detect antibodies to cartilage or chondrocytes using very elegant methods, but the chondrocyte transformant detected by them occurred in all of three cases of relapsing polychondritis and also in nine out of 12 cases of rheumatoid arthritis and in one of two cases of gouty arthritis among the control subjects, in the presence of the same antigens. Increased lymphocyte transformation by itself is not accepted as an indisputable index of cell-mediated immunity because a humoral or a cell-mediated mechanism, or both in combination, or a "non-specific" component could also cause the formation of lymphocytes.10 The possibility of the occurrence of a "non-specific" mitogen in the antigenic material used was not excluded.

Further, as the increased lymphocyte transformation occurred in many cases of rheumatoid arthritis and one of gouty arthritis, the operation of a factor common to all these arthritides (including relapsing polychondritis) seems likely.

Hughes et al.11 have recently demonstrated, by another immunofluorescent technique, positive human fetal cartilage staining in two out of three cases of relapsing polychondritis and in all of 12 cases of rheumatoid arthritis but no staining in 32 control subjects. Again, like Hermans' findings, their results could indicate the occurrence of an antibody in the serum of patients with these chronic arthritides. We12 have shown the presence of cell-mediated immunity to human laryngeal cartilage proteoglycan (kindly supplied by Dr. Helen Muir of the Kennedy Institute) by two in vitro methods—macrophase migration inhibition13 and lymphocyte transformation—in two patients with relapsing polychondritis, whereas nine control subjects suffering from a variety of arthritides gave negative results. Further, we were unable to show the presence of humoral antibodies to cartilage in the serum of these two patients by immunofluorescent staining (kindly done by Dr. G. L. Lack). This case suggests that Dutton's14 of this unit or para(m)ely to proteoglycan by gel immunofluorescence. Subsequently we were in a position to study three other cases of relapsing polychondritis (to be published). The following results were obtained with somewhat similar sera applied. The first case showed no cell-mediated immunity and in the two humoral tests showed positive immunofluorescent staining of fetal cartilage but negative immunofluorescence with proteoglycan. The second case showed positive cell-mediated immunity and weak positive immunofluorescent staining of cartilage but negative immunofluorescence with proteoglycan. The third case showed positive cell-mediated immunity but negative humoral tests like the two reported cases.12 These findings are difficult to interpret. We feel that humoral immunity could be an early manifestation of the disease, while cell-mediated immunity could be a late manifestation. The interesting feature of the development of cell-mediated immunity against a normal biochemical constituent of the tissues affected in the disease process.

Histopathological studies indicate that the chondromucoprotein of the cartilage ground substance is affected in the pathological process of the disease. There is some evidence15 to suggest that the arterial walls may contain a similar substance and this could perhaps explain the involvement of the arteries in the disease. One of the two patients under our care referred to above15 (in fact, the first) presented as a case of Takayasu's syndrome, and over the years she developed both arthritis and finally, in the following year, showed a marked degree of cell-mediated immunity to human laryngeal cartilage proteoglycan. Another patient referred for our opinion had angiographically established Takayasu's syndrome but had no clinical signs of relapsing polychondritis clinically or radiologically. She showed a mild degree of cell-mediated immunity to the same proteoglycan antigen. It could well be that the arthritis of Takayasu's type and polychondritis of relapsing type are variants of the same disease or disease process.—We are, etc.,

DONALD A. RAJAPAKSE
E. G. L. BYWATERS

M.R.C. Rheumatism Unit,
Canadian Red Cross Memorial Hospital,
Talbot, Maidenhair, Berks.
Royal Postgraduate Medical School,
Hammersmith Hospital,
London W.12.


Clinical Experience with the Dalkon Shield

STIR—We were interested to read Dr. J. S. Templeton's letter (8 September, p. 542) concerning the preliminary reports on our clinical experience with the Dalkon Shield (21 July, p. 143) and would like to comment on some of the points that he has raised.

One of the prime objectives of our paper was to point out that in our hands the Dalkon Shield results were not as good as those reported by Davis1 and his colleagues who had developed the intrauterine device (I.U.D.). We therefore presented our data in a similar way to that which they had done, in the paper in which the I.U.D. was first introduced.2 It is possible that their results might be related to the use of a spermicide, which Davis recommends in the first few months of use. Furthermore, in the multicentre analysis reported by the family planning unit at the University of Exeter, there is no information on spermicide usage either.3 We quoted the use of spermicide in 5% of our cases. Variation in spermicide usage over time among the factors related to the widely differing pregnancy rate in these 10-12 clinics, of which, incidentally, ours is one (the pregnancy rate in these clinics varies from 0.8 to 8.4%). We, too, have little doubt that valuable complementary data are derived from studies such as the multicentre trial quoted as well as experience in an individual clinic.

We have used the accepted definition of parity as a pregnancy which has gone beyond 28 weeks. Therefore our nulliparous patients were those who had been pregnant and had had a pregnancy terminated; thus they were able to accommodate the larger Dalkon Shield without any difficulty. It was in the two patients in whom the uterine cavity was small that we used the smaller Dalkon Shield.

As far as the training of doctors in the insertion of I.U.D.s is concerned, we accept that this may well contribute to a higher pregnancy rate, bearing in mind that if an I.U.D. is to be inserted in large numbers, it is to be expected that the skill of individual operators will vary.

We have since had our data analysed according to the currently recommended cumulative life table method4 and our pregnancy rate findings with this method of analysis were not dissimilar from those reported.—We are, etc.,

R. W. JONES
H. PARKER
MAX ELSIN

University Department of Human Reproduction and Obstetrics,
Southampton


One Thousand Vasectomies

SIR—With reference to the report by the staff of the Margaret Pyke Centre (27 October, p. 216) I was interested to note that it was considered unreasonable to insist on sperm-free specimens before taking the responsibility of pronouncing sterility.

I have performed some 5,000 vasectomies