Lubrication of Joints

SIR,—In your interesting article on this subject (15 February, p. 384) you speak of “weeping lubrication” and say, “the articular cartilage exudes lubricant in advance of the point of pressure, encouraging hydrodynamic lubrication at the point of contact.” This cannot be so. Charnley’s pendulum experiments¹ showed that the load-friction ratio was constant over the whole range of conditions explored, and that we must therefore be dealing with solid friction, or, in the engineer’s language, “boundary-layer lubrication.” At no time in his experiments did the load-friction ratio ever indicate fluid friction or “hydrodynamic lubrication.”

We have to visualize the surface of articular cartilage as being covered by a mono-molecular layer of lubricant, the molecules having their sticky ends fastened to the cartilage and their slippery ends presenting into the joint cavity. The surface so formed is a solid, and there is no liquid lubricant between the surfaces.

When osteoarthritis comes to be regarded as a lubrication failure these facts will assume considerable importance.—I am, etc.,

Droitwich, Worcs.

E. S. JONES.

REFERENCE

- ¹ Charnley, J., *Symposium on Biomechanics, Institute of Mechanical Engineers*, 1959, p. 15, 1960.

Pathogenesis of Atherosclerosis

SIR,—Sir George Pickering in his Lewis Lecture remarks, “I know of no more useless occupation than trying to find an answer to the wrong question.”

A question to which I should like to find an answer is this: Why in four out of five fatal myocardial infarcts do I find that the portion of the descending branch of the left coronary artery which lies from 1 cm. to 4 cm. from the ostium is so narrow that it would admit only a pin, and certainly does not admit my probe? Why is this portion heavily calcified and quite rigid when often no perceptible calcification is present in the rest of the coronary arterial system, although uncalcified atheroma is commonly present? Very often I could put the whole calcified portion of the left coronary artery comfortably inside the lumen of the right coronary artery, because not only is the lumen minute but the overall transverse diameter of the left artery is about a quarter of the presumed normal and certainly under half that of the right coronary artery in the same case.

Since we can demonstrate thrombosis in coronary arteries in only about one-fifth of myocardial infarcts we do not think the most important question is—*Why the clot?* We suspect that the important feature is calcification of this localized stretch and its extreme shrinking and narrowing. Often the costal cartilages are calcified in such persons, but by no means all of them show substantial calcification in the abdominal aorta and few do so in the circle of Willis.

It seems possible that lack of physical exercise both lessens the calcium in the bones and also favours deposition in this particular site; but, even if this were shown to occur, the reason for the very sharp localization would still be of interest.

My experience leads me to suggest that atheroma of coronary arteries without calcification is often a mere aesthetic blemish, whereas the calcification in the situation I mention is frequently lethal. The former needs a clot to be effective, but not the latter.—I am, etc.,

Department of Pathology, J. L. EDWARDS.
The Royal Hospital,
Sheffield 1.

College of Psychiatrists

SIR,—May I express my pleasure on reading your leading article (29 February, p. 511) and also make two points?

You may well be right in your criticism of the “British obsession” with examinations, but, that aside, the mass of knowledge relevant to psychiatry is now so extensive that an examination for membership of a College of Psychiatrists can easily be made just as stiff a hurdle as that for M.R.C.P., should this be considered desirable.

Secondly, a minor reproof: only those who have satisfied the very rigorous, detailed, and intensive training requirements for associate membership of the British Psycho-Analytical Society are entitled to be styled psychoanalysts, and of these you will find few indeed who “now follow blindly the gospel according to Freud.” Psycho-analysis, like any other field of research, undergoes constant change, development, and extension, and offers no welcome to blind followers.—I am, etc.,

F. P. HALDANE.

Department of Psychiatry,
West Middlesex Hospital,
Isleworth, Middx.

SIR,—It would be difficult if not impossible in the space of a few lines to summarize more aptly and impartially than you have done in your leader (29 February, p. 511) the case for a College of Psychiatrists. As the largest specialty in medicine psychiatry can no longer be squeezed into the Procrustean bed grudgingly provided for it by the Royal College of Physicians—an unwilling and neglectful parent in any event. As Dr. Clifford Allen has pointed out (7 December, p. 1473) it is only now that the child is about to leave home that the parent has shown any concern for it at all.

I have elsewhere suggested that the Royal College of Physicians is far more concerned for its own power and prestige than it is for the welfare of psychiatry,¹ but by equating the one with the other it now seeks to suggest that the best interests of psychiatry happen by chance to coincide with what is best for the Royal College itself. This facile (and certainly one-sided) “identification of interest” will scarcely fool psychiatrists, who have been denied all the privileges accruing to other more “acceptable” branches of medicine and deprived of any real say in the future of their own specialty.

As Sir George Pickering points out in the same issue (*B.M.J.*, 29 February, p. 517), but in an entirely different context, there is no more useless occupation than trying to find an answer to the wrong question; and there can be no doubt that you are right in stating that the correct question now to be asked is

what is best for the study and practice of psychiatry and *not* what is best for the Royal College of Physicians of London.—I am, etc.,

Rooksdown Hospital,
Basingstoke, Hants.

ARNOLD PEARCE.

REFERENCE

- ¹ Pearce, A., *Lancet*, 1963, 2, 834.

Trial of Compound 1003

SIR,—I would refer to the paper by Professor W. S. Peart and Dr. M. T. MacMahon on “Clinical Trial of 2-Guanidinomethyl (1,4) Benzodioxan (Compound 1003)” (15 February, p. 398). I have used this compound in the treatment of 17 unselected hypertensive patients, and am recording my initial impressions now as these cases are representative of the type of case attending a general medical out-patient clinic and are somewhat different to Peart’s and MacMahon’s material.

Using their classification my cases are as shown in Table I and the hypotensive responses to treatment are shown in Table II.

TABLE I.—Patients with Hypertension

Degree of Hypertension	Type of Hypertension	
	Essential	Renal
Gross	2	2
Severe	5	0
Moderate	5	2
Mild	1	0

TABLE II.—Hypotensive Response to Treatment

Type	Number
Good	10 (2 renal, 8 essential)
Satisfactory	5 (2 “ 3 “)
Poor	2 (both essential)

Dose of 1003 ranged from 80 mg. (one case) to 10 mg. per day, averaging approximately 30 mg. per day. Polythiazide (1 mg. daily) was given as well in seven cases, effectively reducing the required dose of 1003; in three cases polythiazide was given because of hypertensive cardiac failure, in three cases to reduce the dose of 1003 because of side-effects, and in one case to obtain a more cautious hypotensive effect.

Slight lack of energy, nausea, postural and exertional dizziness, were the only side-effects encountered in 12 cases. There was none in five. In one case the drug had to be withdrawn for persistent lack of energy. In all other cases the symptoms disappeared after a variable time (2–8 weeks). No toxic effects were found. The drug has a rapid effect on the blood-pressure, the effective satisfactory dose being reached by gradual increases of 10 mg. per day. The duration of treatment in this small series has been from 16 to 41 weeks, and there has been no evidence of cumulative effect or tolerance.

Six cases had previously been treated with guanethidine with and without an added diuretic. In four cases the response to 1003 was better, in two equivalent. A constant and notable finding in the great majority of

patients was their unprompted admission that on this drug they felt generally better than previously.

In my limited experience of this new hypotensive agent it would appear to be a potent and useful drug for the common types of hypertension. Individual dose requirements appear to be wide but considerably lower than found by Peart and MacMahon. The critical dose level is narrow and it should be administered cautiously, starting with 5 mg. b.d. and increasing the dose by 5 mg. b.d. every three to seven days until a satisfactory response is reached.

The value of the drug is enhanced by its satisfactory hypotensive effect on the lying as well as the standing blood-pressure in all cases studied.—I am, etc.,

JAMES ROBERTSON.

Roe Valley Hospital,
Limavady,
Co. Londonderry.

Treatment of Status Epilepticus

SIR,—I would agree entirely with your correspondents Drs. E. M. R. Critchley, G. O. M. Jones, and G. M. Levene (15 February, p. 437) that the help of anaesthetists is an invaluable advance in the treatment of status epilepticus. In the last three cases treated in this unit intubation was necessary, and in two full curarization was required by conditions accompanying the status. Such patients cannot be managed without expert anaesthetic help. However we still find intramuscular paraldehyde the drug of choice for early treatment, which may have to be initiated in the home. By the time a drip is set up the patient is likely to be in hospital and the choice of anticonvulsant can safely be wider. I should emphasize that the majority of cases should not reach the stage of requiring a drip, provided the condition is treated vigorously and the patient kept under adequate and continuous observation once status or even serial epilepsy commences. A striking lacuna in some of our cases has been the lack of adequate observation when the warning signal of frequent serial epilepsy or even a short bout of status has occurred. In these circumstances oral anticonvulsants may be difficult to take and no adequate parenteral substitute given. Status continues to be a medical emergency, which if not rapidly controlled requires hospital admission.—I am, etc.,

C. W. M. WHITTY.

Department of Neurology,
United Oxford Hospitals.

Drug Advertisements

SIR,—In his letter in your issue of 8 February (p. 374) Dr. J. Dobbing infers that I was making a comparison between the percentage of expenditure on advertising drugs to the medical profession and that on advertising "other merchandise." That was certainly not the implication intended by my letter.

He also states that he does not understand the relevance of my comparison between Communist-controlled countries and our system of free enterprise in respect of publicity for drugs. Surely this must lead to the conclusion that in these countries there

is no freedom of choice, and in the eyes of the authorities no need to advertise any alternative methods of treatment other than those dictated by them.

If it were true, as *The Guardian* comments, that doctors do not prescribe proprietary preparations because of advertising, it is inconceivable that the drug manufacturers would continue to maintain their expenditure on advertising at its present level.—I am, etc.,

MAURICE KEATING.

Harley Publishing Co. Ltd.,
London W.C.2.

Side-effect of Oral Contraceptives

SIR,—I feel an unusual, and hitherto unrecorded, side-effect of oral contraception should be brought to the attention of other practitioners.

I prescribed "anovlar" tablets (norethisterone acetate 4 mg., ethinyl oestradiol 0.05 mg.), one daily from the 5th to the 25th days of the menstrual cycle, to a patient with hitherto quite stable diabetes. After the third day of medication this became unstable as evinced by the reappearance of glycosuria, polyuria, and polydipsia, and increased insulin demand. The patient continued the anovlar for a few more days before consulting me; the pill was then stopped. It was two menstrual cycles before she was again stabilized. I communicated by letter with the medical information department of Pharmaceuticals Ltd., the U.K. subsidiary of the manufacturers, Schering A.G. Berlin. They inform me that two or three other such cases have been reported, showing increased blood-sugar levels during treatment with anovlar. They suggest, therefore, that extreme care should be exercised when giving this preparation to diabetics and a careful check be kept on their urine, blood sugar, and insulin requirements. They also inform me that no case has been reported where anovlar has been considered directly responsible for a presenting diabetes mellitus in a previously healthy individual. It has been suggested that norethisterone acetate has some anabolic effect, therefore increasing appetite and dietetic intake.—I am, etc.,

Colchester, Essex.

N. L. PAROS.

Drugs and the Embryo

SIR,—The results of the prospective study by Dr. R. W. Smithells and Miss Elizabeth R. Chinn (25 January, p. 217) on 219 pregnancies in which meclozine had been administered during the first 12 weeks of pregnancy is of considerable importance in providing further evidence that this drug is not associated with a higher foetal abnormality rate than usual. In a prospective and retrospective survey undertaken by the General Practitioner Research Group¹ on 661 patients, in whom certain specified drugs had been taken in early pregnancy, a similar result was recorded. Thus of 214 patients who had received meclozine there was a foetal abnormality rate of 3.3%, a miscarriage rate of 2.7%, and a stillbirth rate of 0.5%. We were also interested in other antihistamine drugs, and the next most commonly used was promethazine (165 cases), with a foetal abnormality rate of 4.3%, which is not significantly different from normal. In our cases pheno-

thiazines had not been used nearly so frequently as antihistamine drugs, but in 59 cases where trifluoperazine had been administered there was a foetal abnormality rate of 1.7%, and in 43 patients given pipamazine the rate was 4.6%, again a difference not significant in view of the relatively small numbers involved.

Other findings were an abnormality rate of 1.2% in association with 82 patients to whom dicyclomine, an anticholinergic drug, had been administered, and a rate of 6.6% in association with 61 patients given barbiturates. Foetal abnormalities occurred in 8.2% of 60 patients given female sex hormones and in 5.7% of 89 patients who had been x-rayed, these consisting mainly of chest films. In the case of barbiturates, female sex hormones, and x-rays, the trends for the figures indicate that significance at the 5% level might be expected if the samples were increased in size. Clearly it is of importance to extend the investigation to include larger numbers of patients falling into these categories.

Whilst it remains wise policy not to administer any drug during the early months of pregnancy unless it is absolutely necessary to do so it must be recalled that we have no knowledge of the effect of a severe untreated hyperemesis on the developing foetus, and that it may be better to use a drug to control symptoms than to chance possible harm to the foetus from this cause.—I am, etc.,

DAVID WHEATLEY.

The General Practitioner Research
Group,
Twickenham, Middlesex.

REFERENCE

¹ *Practitioner*, 1963, 191, 775.

Inhaled Ergotamine for Migraine

SIR,—The article by Dr. J. Crooks, Dr. S. A. Stephen, and Dr. W. Brass (25 January, p. 221) on a clinical trial using inhaled ergotamine tartrate as a treatment for migraine is a very valuable addition to the somewhat unsuccessful treatment of this most unpleasant condition. I would like to support their conclusions from my own personal experience.

Having suffered from migraine for over ten years, I have tried most methods of treatment. I found "cafergot" tablets gave very little relief; "migril" tablets were somewhat better, especially if combined with an extra 25 mg. of "largactil" (chlorpromazine); ergotamine tartrate intramuscularly afforded most relief, but required 50 mg. of chlorpromazine intramuscularly to prevent excessive nausea.

When I was presented with a "medihaler-ergotamine" I naturally made use of it at the first opportunity and was extremely gratified by the results, and have continued to use it as required ever since. In twelve attacks the medihaler has never failed to relieve the headache completely after two inhalations, and in all instances save two the nausea of the migraine was relieved.

I am now convinced that the medihaler-ergotamine is the treatment of choice for migraine, perhaps combined with a 25-mg. tablet of chlorpromazine for any residual nausea.—I am, etc.,

W. H. BEESLEY.

Sir Patrick Dun's Hospital,
Dublin 2.