Any Questions?

We publish below a selection of those questions and answers which seem of general interest. It is regretted that it is not possible to supply answers to all questions submitted.

The 40-mm. Test

Q.—*What is the technique of the test used in the R.A.F. in which the subject blows up a column of mercury and keeps it up by exhalation, and what information does the test provide?*

A.—The test is described in *The Medical Examination of Civilian Aviators*[1] as follows. "With the nose clipped the candidate is asked to empty the lungs completely, inhale fully, blow the mercury to the height of 40 mm. and maintain it there without breathing as long as possible, the pulse being counted in periods of five seconds during the performance of the test. The average time in a large number of cases tested is between 50 and 60 seconds. A time less than 40 seconds is very unsatisfactory. In a good subject the pulse rate may remain practically unaffected, or may rise gradually in rate from 73 to 96, according to the time the breath is held. The pulse may rise almost at once from 72 to 84 or 96, and be sustained there. A large rise in rate—for example, from 72 to 132 or 144—is unsatisfactory.

"The test is to be recorded thus: First, the number of seconds during which the mercury column is sustained, then the normal sitting pulse rate per five seconds taken before beginning the test, and then the number of pulsations in each five-second period, the time taken to blow the mercury to 40 mm. being ignored. The normal sitting rate should be separated by a stroke from the first figure of the pulse response during the test—for example, 50 seconds 6/6677789888. This test affords information as to the stability of the nervous centres controlling respiration and circulation, and of the power and endurance of the subject."

It is not now generally considered that the test has any value in assessing the respiratory and circulatory reserves of normal men. The pattern of the changes in pulse rate is variable, but only gross abnormalities can be detected in this way. It is also doubtful whether the test of endurance is of any significance, apart from the apprehension produced in the subject by the prospect of having to perform it. The 40-mm. test is no longer used in the Royal Air Force.

REFERENCE

1 *The Medical Examination of Civilian Aviators*, 1928, C.A. Publication No. 1, ed. 2. Air Ministry, London.

Quality of Semen

Q.—*What treatment would benefit fertility in a man with the following semen analysis: amount, 2.5 ml.; reaction pH, 8.0; count, 3,500,000 per ml.; motility good, but only an occasional motile form seen?*

A.—Before any opinion can be expressed on prognosis or treatment the seminal analysis should be repeated twice. Marked variability in the semen is sometimes encountered and a single bad specimen may have no special significance. However, if repeated analyses produce the same result, then without doubt the prognosis is poor although not entirely hopeless. One needs to know more about the patient before advice on treatment can be given. For example, is there a varicocele? If so, its surgical cure might lead to a great seminal improvement. Are the testicles of normal size or are they small and flabby? Unless there is associated eunuchoidism, small flabby testicles would give a very poor prognosis. Is there a history of epididymo-orchitis, heavy smoking, or alcoholic intake? Any of these might affect the prognosis and influence the choice of treatment.

Apart from general simple measures, such as the wearing of loose-fitting underpants, a trial of cold-water sponging of the testicles morning and night, and eliminating excessive tobacco and alcohol consumption, it is not possible to give specific advice on treatment. Certainly hormone treatment is likely to prove disappointing. If there is eunuchoidism treatment with gonadotrophins may be useful, otherwise it will not. Artificial insemination of defective semen such as this is very unlikely to lead to conception. Centrifugation of the semen in order to concentrate the spermatozoa has been advocated, but in the writer's opinion is unlikely to help.

Steroids in Migraine

Q.—*What is the rationale of giving steroids in attacks of migraine?*

A.—There is no simple answer to this question, any more than there would be to one about the rationale for giving steroids in rheumatoid arthritis. One may say, however, that allergy may play a part in initiating a migraine attack in certain instances and prednisone, prednisolone, *et hoc genus omne* are highly effective remedies for allergy. Other "anti-allergic" drugs, such as the antihistaminics, may be useful in nausea, and certainly in migraine one of the important uses of prednisone, etc., is in preventing nausea due to ergotamine. But it has been claimed on high authority[1] that, given early in an attack, corticoids may prevent its development. Unless allergy be the cause, it is difficult to explain its effect.

REFERENCE

1 Graham, J. R., *Treatment of Migraine*, 1956. Churchill, London.

Vaccination in Children with Cranial Injury

Q.—*Is smallpox vaccination contraindicated in a child suffering from convulsions after a birth injury? Is there any increase in the incidence of post-vaccinial encephalitis in such cases?*

A.—There are no reliable figures available on the incidence of post-vaccinial encephalitis in children suffering from convulsions after a birth injury. Such information would be extremely difficult both to collect and to assess, but on general principles it is advisable to use immunizing agents cautiously in such cases, particularly when there is a risk of neurological sequelae associated with the vaccine. In this country, where the risk of contracting smallpox is slight, it would be advisable to postpone Jennerian vaccination until a later age.

Correction.—In the article on coronary artery disease by M. F. Oliver, part I (April 25, page 1107), glyceryl trinitrate is said to be dispensed in a chocolate base unless otherwise specified. The *B.P.* specification is now a mannitol base. In part II of the article (May 2, page 1176) noradrenaline is said to be given by intravenous infusion of isotonic saline. This should have been isotonic glucose.

All communications with regard to editorial business should be addressed to THE EDITOR, BRITISH MEDICAL JOURNAL, B.M.A. HOUSE, TAVISTOCK SQUARE, LONDON, W.C.1. TELEPHONE: EUSTON 4499. TELEGRAMS: *Aitiology, Westcent, London.* ORIGINAL ARTICLES AND LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated.

Authors desiring REPRINTS should communicate with the Publishing Manager, B.M.A. House Tavistock Square, W.C.1, on receipt of proofs.

ADVERTISEMENTS should be addressed to the Advertisement Director, B.M.A. House, Tavistock Square, London, W.C.1 (hours 9 a.m. to 5 p.m.). TELEPHONE: EUSTON 4499. TELEGRAMS: *Britmedads, Westcent, London.*

MEMBERS' SUBSCRIPTIONS should be sent to the SECRETARY of the Association. TELEPHONE: EUSTON 4499. TELEGRAMS: *Medisecra, Westcent, London.*

B.M.A. SCOTTISH OFFICE: 7, Drumsheugh Gardens, Edinburgh.