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.

Alkalinizing the Urine

Q.—*As a gout sufferer on uricosuric drugs I am supposed to keep my urine alkaline. I find potassium citrate rather nauseating. Would sodium bicarbonate have the same alkalinizing effect, and if so how much should I take daily in terms of the equivalent of pot. cit.? Which foods and drinks are chiefly responsible for causing acidity of the urine?*

A.—Potassium citrate is used to make the urine alkaline because citrate is metabolized in the body to produce bicarbonate ions. Sodium bicarbonate would also be effective for this purpose. It is difficult to give exact equivalent doses of potassium citrate and sodium bicarbonate because not all the citrate which is given is converted to bicarbonate. If one were to assume that this were so the equivalent of the 3 g. of potassium citrate contained in a dose of Mist. pot. cit. (*N.F.*) is about 2.4 g. of sodium bicarbonate. The usual dose of sodium bicarbonate advocated for alkalinization of the urine, however, is 5–10 g. per day. The disadvantages of sodium bicarbonate are that it neutralizes the gastric hydrochloric acid and that a good deal of carbon dioxide is produced in the stomach, so that gastric distension and belching may occur. The nausea produced by pot. cit. is mainly due to the potassium ion, and sodium citrate in a dose of 5–10 g. per day would probably be more pleasant to take and just as effective as potassium citrate. The main dietary factor which controls the *p*H of the urine in health is the amount of protein eaten. Those who take a mainly vegetarian diet tend to have a more alkaline urine.

Sensitivity to Sun Creams

Q.—*What are the common constituents of sun-protecting creams, and which of them may cause contact sensitivity dermatitis?*

A.—Substances which have been used in some protective creams as ultra-violet light absorbers include para-aminobenzoates, anthranilates, salicylates, cinnamates, pyrones, benzimidazoles, and quinine bisulphate. More recently used substances are benzophenones, benzotriazoles, and acrylonitriles. The most widely used are most probably the para-aminobenzoates. They are known to produce contact sensitivity dermatitis. Sensitivity has been known to occur with several of the others. Methyl salicylate is also a well-known sensitizer. The responsible agent cannot be identified unless patch tests with the individual substances are carried out.

Meningo-vascular Syphilis

Q.—*What is the modern treatment for meningo-vascular syphilis?*

A.—Meningo-vascular syphilis is a broad general term which covers a variety of conditions from localized involvement of meninges and small blood-vessels without symptoms and signs to thrombosis of a large artery of the brain or spinal cord. It is therefore difficult to recommend a method which is suitable for all cases. However, the remedy of choice is penicillin. Other antibiotics are less effective and should be reserved for patients who have been sensitized to penicillin. Meningo-vascular lesions may present in the secondary or tertiary stage of syphilis. In the secondary stage penicillin should be given without delay; in the tertiary stage the risk from the Jarisch–Herxheimer reaction must be weighed against the possibility of further danger resulting from delay in using the most effective drug. If there is no objection to a short delay, treatment may begin with intramuscular bismuth, 0.2 to 0.3 g. once weekly for two to three weeks. This is likely to prevent the Jarisch–Herxheimer reaction. Whether penicillin is used at once or after bismuth, continuous effect is more important than high concentrations in the patient's blood. A repository preparation such as procaine penicillin may be given in doses of 600,000 units in watery suspension intramuscularly daily for 10 to 21 days, depending upon the severity of the case. Response to treatment can be assessed by the clinical response and by tests of the cerebrospinal fluid before treatment and at intervals after treatment. The effect upon the cell count is the most important gauge of successful treatment and of the need for more treatment.

NOTES AND COMMENTS

Simple Anaesthetic Apparatus.—Dr. J. MAR (London S.W.2) writes: Bearing in mind (*a*) the prohibitive cost of halothane in underdeveloped countries, (*b*) the uterine inhibition properties of halothane, and (*c*) the lack of trained anaesthetists, would not trichlorethylene be a more suitable induction agent for use in midwifery by doctors without specialized training in anaesthesia and working in underdeveloped countries with a hot climate (see "Any Questions?" May 5, p. 1287)?

OUR EXPERT replies: Recent work[1] has shown that a short while after the administration to a patient of 2% halothane vapour in air it is possible to introduce and build up the inspired concentration of ether to 20% very rapidly without untoward manifestations. A measured quantity of not more than 4 ml. liquid halothane is sufficient to enable this to take place. This leads to the interesting situation where a patient is accepting 20% ether before reaching plane 1 surgical anaesthesia. Here halothane is acting as an "introduction" or preparatory agent and not as an induction agent. Preliminary investigations suggest that trichlorethylene is also a suitable "introduction" agent for ether–air anaesthesia. Though trichlorethylene has been used for many years in the nitrous oxide, oxygen, trichlorethylene, and ether sequence, it appears that no comparison has been made between it and halothane as an "introduction" agent in ether–air anaesthesia. Further investigation of this is in progress.

Before answering the question I will reply to the three propositions: (*a*) An easy induction of ether–air anaesthesia may be worth four shillings or more. (*b*) The uterine inhibition properties of such a small quantity of halothane used only during induction are negligible in practice. Besides, any effect of a small quantity of halothane on the uterus is rapidly reversed on cessation of its administration.[2] (*c*) It should be difficult even for the untrained anaesthetist to cause serious harm with 4 ml. of halothane from a device which delivers a maximum of 2% vapour in a non-rebreathing circuit.

The question raised is extremely important. There is work being undertaken on the problem of providing a safe, cheap, and easy method of establishing ether–air anaesthesia by purely inhalational means. Induction units for this purpose are being tested. In answer to the question, however, trichlorethylene is adequate as a preparatory agent for ether–air anaesthesia, but, if cost does not rule out its use, halothane is preferable in the circumstances named.

REFERENCES

1 Bryce-Smith, R., 1962, personal communication.
2 Vasicka, A., and Kretchmer, H., *Amer. J. Obstet. Gynec.*, 1961, **82**, 600.

Correction.—The new volume of *A Text-book of X-ray Diagnosis*, edited by S. Cochrane Shanks and Peter Kerley, listed under "Books Received" on July 28 (p. 243) is the third edition of Volume Two, not of Volume Three as stated.

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