Cl. Welchii and Gas Embolism

Q.—*(a) What is the chemical nature of the gas produced in man by the gas-gangrene organisms (Clostridium welchii, etc.)? (b) Could the equivalent of "air embolism" be produced by this gas and lead to death from acute heart failure? I have in mind a case in which a clostridial infection followed a septic abortion, and death took place comparatively rapidly, with collapse, low blood pressure, and intense dyspnoea, clinically resembling pulmonary embolus. On opening the innominate veins at necropsy large bubbles of gas escaped.*

A.—(*a*) Hydrogen and carbon dioxide in the proportion of about three parts to one. (*b*) No. Gas is found in considerable quantity only in tissues rich in fermentable carbohydrate—that is, muscle and liver. It is true that a small amount would be formed from blood sugar, and the accumulation of this after death might account for the appearance observed, but it could not conceivably accumulate during life in such volume as to cause fatal gas embolism. If embolism did occur in this case, is it not much more likely to have been due to the detachment of a thrombus?

Absorption of Dead Foetus

Q.—*Can a dead foetus in utero (missed abortion) become absorbed and disappear with little external loss? Can such absorption be associated with toxic effects such as headaches, nausea, fainting, and leucocytosis?*

A.—If the dead foetus is small, as in the first trimester, it is often absorbed and not found when the products of conception are expelled or removed. This is the case, for instance, in carneous moles. If by "foetus" the questioner means *all* the products of conception, the answer is still "yes." Even at term a placenta may be absorbed *in utero*, as has happened where a placenta accreta has been left *in situ* and a subsequent pregnancy has occurred. The absorption of a missed abortion may be accompanied by the signs and symptoms mentioned.

Persistent Sciatic Pain

Q.—*A patient developed acute meningitis following cinchocaine hydrochloride injection, and this responded to treatment with sulphonamides. A month after his discharge from hospital he was readmitted because of left sciatic pain. This was increased by coughing, but there was no low back pain. The patient had a leucocytosis, but was afebrile, and there were neither motor nor sensory signs. Penicillin, 130,000 units in eight intrathecal injections, brought the white count to normal but had only a transitory effect on the pains. Is this a case of nerve-root compression due to inflammatory fibrosis? What treatment would you suggest, what investigation, and what is the prognosis?*

A.—This is a problem case on which it would be impossible to give a dogmatic opinion without first making a full examination of the patient. There appear to be three possibilities. The first is that the sciatic pain is due to irritative neuritis resulting from the intrathecal infection; but if this was the case it might be expected that the symptoms would be bilateral rather than unilateral. The second possibility is that the condition is one of root pressure caused by a prolapsed intervertebral disk. Injury to a disk in the course of a difficult or ill-performed lumbar puncture might predispose to later prolapse. The third possibility is that the symptoms are due to some quite independent condition, such as spinal or pelvic neoplasm or sacro-iliac disease.

Before deciding on the best form of treatment it will be necessary to establish the diagnosis with greater certainty. It should be easy enough to dispose of the third possibility—the least likely one—after careful investigations, which should include pelvic examination; radiography of the hip-joints, sacro-iliac joints, and lumbar spine; cerebrospinal-fluid analysis, with particular reference to the protein level and bacteriology; and determination of the erythrocyte sedimentation rate. Assuming that extraneous conditions are thus excluded, it will then be necessary to decide between prolapsed intervertebral disk and irritative neuritis. The degree of the leucocytosis at the time of readmission is not stated; but unless the white-cell count was significantly raised it need not necessarily be regarded as an indication of reinfection, particularly as there was no pyrexia. Because of the unilateral nature of the pain, and of the history of repeated lumbar puncture, disk prolapse is the more likely possibility; and if examination of the cerebrospinal fluid reveals no significant abnormality such a diagnosis should be made provisionally and conservative treatment instituted. Incidentally, treatment on very similar lines would be appropriate for a case of irritative neuritis. This should consist of: (1) application of a well-moulded plaster jacket from pubis to mid-thoracic level, applied with the patient standing; (2) rest in bed in the jacket for three to four weeks; (3) if improvement is occurring, ambulation and limited activity in the plaster is then permitted for a further six to eight weeks before removal of the jacket; (4) subsequently, if necessary, the patient may be fitted with a lumbo-sacral belt of strong design, to be worn for six months or more according to the clinical indications. Treatment on these lines has been shown to give excellent results even in severe cases of prolapsed intervertebral disk; and, particularly in a case such as this, it would be wise to continue with conservative measures for a considerable period before considering any form of operative treatment.

NOTES AND COMMENTS

Threatened Abortion.—Mr. L. W. HEFFERMAN (Swansea) writes: In an answer given in "Any Questions?" (Jan. 22, p. 163) I notice that the final opinion appears to be to discontinue the use of progesterone for threatened abortion. The following case may therefore be worthy of record. The patient was a woman, now aged 30, who in 1940, as a primigravida, had a miscarriage at six months. Just prior to this occurrence she was in an air-raid shelter at the back of the house while there was some bombing. She became pregnant again in 1941, and, having decided to get away from the bombing area, she went to the outskirts of the town. She again had a miscarriage at six months, and on this occasion, in addition to being in a safe area, there was neither air-raid warning nor bombs. In 1942 she was pregnant for the third time and decided to seek medical advice. We put her on progesterone, and she duly gave birth to a full-time baby girl weighing 7 lb. 2 oz. (3.2 kg.). In 1944 she had a miscarriage at two months. In 1945 she again became pregnant and again sought medical advice. She was put on progesterone once more and again had a baby girl weighing 8 lb. 12 oz. (4 kg.). She is pregnant again (expected date of confinement May 16), and we are treating her with progesterone. She sought medical advice because she had had a slight loss. At the moment the foetus appears to be very vigorous.

In addition to this case I have personal records of twelve other cases, all of whom as primigravidae lost their first pregnancies. All the twelve subsequently in their second pregnancies were treated with progesterone. Eleven had full-time normal infants, but one had a miscarriage for the second time in spite of progesterone. I have not seen her since, and in this case the Rh factor may be to blame. I notice that vitamin E was recommended, but I look upon this as more useful from a fertility point of view rather than for keeping the foetus *in situ* after the pregnancy has occurred.

Correction.—In the paper "'Paludrine' (Proguanil) in Prophylaxis and Treatment of Malarial Infections Caused by a West African Strain of *P. falciparum*," by Sir Gordon Covell and others (Jan. 15, p. 88), a mistake occurred in describing under "Prophylactic Trials" how the patients were infected with malaria. The sentence should read: "The patients were infected once weekly over a period of six weeks, each subject under prophylaxis alternately being bitten by five to ten heavily infected mosquitoes one week and receiving the next week intravenous injection of a suspension of the salivary glands of one heavily infected mosquito by the technique described by Shute (1937)."

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