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Medical Memoranda

Favism in an English-born Child

Favism is a form of acute haemolytic anaemia caused by ingestion of broad beans (*Vicia faba*) or by inhalation of the pollen of that plant. A good review of the subject in English is that of Luisada (1941). The disease usually occurs in members of susceptible families, and the susceptibility seems to be inherited as a Mendelian dominant factor with variable expression, though about 40% of the cases appear to be sporadic (Marcolongo *et al.*, 1953). It is common only around the Mediterranean basin, and the few cases recorded in the Americas have been in families of Sardinian or Sicilian origin (Marcolongo, 1951). Two cases in families from Cyprus living in England have been recorded by Diggle (1953), and McCarthy (1955) has reported a case in an autochthonous British child.

Similar anaemias have been reported as being due to inhalation of the pollen of spring flowers (Bagdad spring anaemia: Lederer, 1941), of the broom (*Genista scoparia*) (Luisada, 1936a, 1936b), and of the odorous product of stinkwood (*Anagyris foetida*) (Carcassi *et al.*, 1950); to the ingestion of berries of the bog-bilberry (*Vaccinium uliginosum*) (often called whortleberry in England) (Frankiel, 1931-2), of the mushroom (*Morchella esculenta*, the morel), of male fern (*Dryopteris filix-mas*) (Gasser, 1951), and of peas (*Pisum sativum*) by a member of a favist family (Carcassi *et al.*, 1951); and as of unknown aetiology by several authors (Brill, 1926; Lederer, 1930; Giordano and Blum, 1937; Bernard, 1950a, 1950b; Fois, 1950). These odd cases suggest that favism is a special form, albeit the commonest, of a disease process which might be called, following Italian example, "allergic ictero-haemoglobinuria" (Marcolongo, 1954). It is commonest probably because broad beans have been a staple food (except among the adherents of Pythagoras), whereas morels and bog-bilberries are not, so that repeated exposure to the one is usual, to the others rare. Although this disease is commonest in Sardinia and Sicily, it is familial, so that the migrations and military expeditions of the last 3,000 years will have ensured that it is widely distributed between the Pillars of Hercules and the banks of the Indus.

In 1952 it became necessary to make a diagnosis of favism in an English-born child.

CASE HISTORY

A female child aged 2½ years had had a feverish illness for a day or two, but when seen on June 16, 1952, no abnormal signs were detected. During the evening of the next day there was slight scleral icterus but no enlargement of lymphatic glands, liver, or spleen, and no purpura. On June 18 she was pale and increased urobilinogenuria was noted. Laboratory tests showed: haemoglobin, 4.4 g./100 ml. (30%); erythrocytes, 1,500,000; leucocytes, 55,000 per c.mm. (42% neutrophils and 46% lymphocytes); normoblasts, 2,200 per c.mm.; marked polychromasia and some anisocytosis were present.

Haemolytic anaemia of unknown aetiology was diagnosed and a transfusion of the packed cells from 450 ml. of blood

was given. The patient thereafter made an uninterrupted recovery, the haemoglobin rising to 71% on the 19th and jaundice having disappeared by the 23rd. A marrow film taken on the 18th showed 33.8% lymphocytes, and a leuco-erythrocytic ratio of 4.25 (normal less than 2.65), thus showing increased erythropoietic activity.

The clue to the diagnosis was given by the appearance of the father, who was obviously of Mediterranean anthropological type. The suggestion of favism was made to him. Inquiries at home revealed that the patient had eaten heartily of broad beans at midday on the 17th, a few hours before the scleral icterus had been noted; and she had probably eaten small quantities of beans a day or two before.

The father was born in Bagdad into a family of Mesopotamian origin. The mother was born in Wales, but both her parents had been born in Bagdad into families of Mesopotamian origin unrelated to each other or to that of the father. No blood relations on either side had ever had any disease which could be described as favism, Bagdad spring anaemia, or Lederer's anaemia—and an account was obtained of all four grandparents, nine uncles and aunts, and eight more distant relatives.

There is no absolute proof that this child has suffered from favism, although the evidence would suffice for most observers. Obviously it would be unethical to try to prove it by inducing another attack. The real value of such cases is to indicate how the present *Völkerwanderungen* are bringing to our shores examples of disease which once had to be sought half a world away.

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Radiological Demonstration of a Pyelo-chylous Fistula

The condition of chyluria is unusual and the successful demonstration of a lymphatic leak into the renal pelvis more so. These facts would seem to justify publishing this somewhat incomplete case.

CASE HISTORY

A naval rating aged 21 was referred for urinary investigation. He complained that for the last five days he had noticed that his urine was milky and that he had a slight ache in his left groin. There were no other symptoms. Routine urine examination made at a civilian hospital had shown the presence of albumin in quantity as well as numerous red cells and some white cells; no crystals or casts were seen. Some twenty-six months earlier he had noticed the same condition and had been admitted to a Service hospital in the Mediterranean. The onset of his illness at that time was identical with that of his present condition, but in the earlier illness his urine had become pink from blood-staining on the third or fourth day. He was told at this time that his urine contained fat, and his illness was labelled chyluria. Investigations failed to discover any cause and he was invalided home for further

investigations. By the time he reached hospital in England his condition had undergone spontaneous remission, and observation and investigation failed to demonstrate anything further. He was accordingly returned to full normal duty.

On examination at the time of admission he was a healthy young man of better than average physique, well nourished, and of good colour. Physical examination was completely negative. His blood pressure was 120/60, his optic fundi were normal, there was no visible or palpable lymphangiosis, lymphangitis, or lymphadenitis; there was no oedema, local or general. Both testes and cords were normal. Neither kidney was palpable. His urine was obviously opalescent and pale yellow in colour.

Investigations.—Examination of the urine confirmed the findings of albumin, red cells, and white cells, but also showed the presence of fat in quantity, about 50 mg. per 100 ml.

After the injection of a small additional quantity of dye into both sides. The described leak is easily seen on the right side.

Urine cultures were sterile in 24 hours. Blood: Hb, 110%; R.B.C., 5,900,000; W.B.C., 7,000, normal differential; urea, 25 mg. per 100 ml.; E.S.R., 3 mm. in one hour. Repeated blood smears and stained preparations were made throughout 24-hour periods in an attempt to demonstrate microfilaria, and were completely unsuccessful. Chest x-ray examination showed no abnormalities. Repeated urine examinations made for microfilaria were negative. Cystoscopic examination and retrograde pyelography were performed and ureteric catheter specimens were obtained from both kidneys. The cystoscopic findings were normal. The urine from the right kidney was obviously more opalescent than that from the left, which unfortunately was blood-stained.

Further examination showed that the specimen from the right side contained only fat; both contained albumin and red cells; but the quantity of albumin in the specimen from the left side was minute and was thought to be due to the blood contamination. The pyelographic appearances are shown in the illustration. A leak of the radiopaque dye into a leash of small tortuous varicose channels, presumably lymphatics, is clearly seen on the right side. In the main the channels run mesially, but others can be seen around the upper and lateral borders of the shadow of the pelvis. This remarkable film was taken after the catheters had been withdrawn a few inches and a small extra quantity of dye injected.

The only attempt at treatment was to institute a fat-free diet. The patient was returned to the United Kingdom for further assessment.

COMMENT

An absolute diagnosis was not made in this case. The site and pathological nature of the lesion, as well as the significance of the metabolic disturbance produced, are unknown. The disease was first noted in Malta. The sailor had been in the Mediterranean area for 16 months preceding this first episode of chyluria. During that time he visited ports on the south coast of France, Naples, and, more significantly, Algiers and Tangier on the North African coast.

Wuchereria bancrofti is indigenous in North Africa and Southern Spain; chyluria as a result of filarial disease is quite common in India, China, and North Africa, where it frequently appears without warning (Manson's *Tropical Diseases*). Filarial infection is the only common cause of chyluria, although the condition can result from other causes of lymphatic obstruction.

Despite the complete failure to demonstrate microfilaria in either blood or chylous urine it seems reasonable to assume the obstruction in this case to be due to filarial infection. The assumption is based on the history of opportunity for infection to occur, the subsequent latent period before the onset of symptoms, and the complete absence of any signs or symptoms suggestive of any other possible cause of obstruction.

It is thought that the main interest of the case is in the presenting symptom, a complaint of having passed milky urine, and the remarkable demonstration of the communication between the right renal pelvis and lymph vessels.

I wish to thank Dr. C. Campbell, who performed cystoscopy and retrograde catheterization, and Major H. Elverson for permission to publish the case.

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Case of Arsenical Poisoning without Visible Anatomical Post-mortem Changes

Inflammatory changes of the mucous membranes of stomach, upper parts of small intestine, and oesophagus are mentioned in most textbooks as typical findings in acute arsenical poisoning. The case reported is of interest because of the complete lack of anatomical changes.

CASE REPORT

A woman aged 44, last seen alive and well at noon, was found dead in her bed at 3 p.m. the following day. A vessel containing vomit was found by the bedside and a bottle marked "W— Rat Poison" in a corner of the living-room.

Post-mortem examination was carried out the same day. Yellowish-stained gastric contents were found in the nasopharynx, and the angle of the mouth was stained by the same dried fluid. Aspirated gastric contents were present in the airways with resulting expiratory emphysema. The stomach contained a small quantity of bile-stained mucoid fluid, with some starchy material. The mucosa of mouth, oesophagus, stomach, and intestine appeared perfectly normal to the naked eye. Histological examination was not carried out.

Chemical Analysis.—The rat poison was a colourless neutral solution of an arsenite. Its concentration expressed as arsenic was 1.5%. Approximately one teaspoonful of this solution would have been a fatal dose. Nineteen ounces (540 ml.) of the rat poison were missing from the bottle, but there was no evidence to suggest that all this quantity had been consumed. Arsenic equivalent to 3 oz. (85 ml.) of the rat poison was isolated from the vomit. In addition five pink tablets were picked out which on analysis were found to be aspirin. Arsenic was found in the liver (fresh from necropsy) in a concentration of 15 mg. per 100 g. The concentration of salicylic acid in the liver was only 6 mg. per 100 g. Spectrographic analysis of the rat poison also showed the presence of traces of an antimony compound. This may have contributed towards causing the vomiting. As the "arsenic" was in liquid form and this liquid had a pH of 7 there is no apparent reason why it should have acted as an irritant poison.

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