Medical Memoranda

Congenital Syphilis with Acute Nephritis

The following case is presented because of the scarcity of textbook references to acute nephritis in infants suffering from congenital syphilis.

Case Report

A male infant aged 4 months 11 days was admitted to hospital on March 21, 1949. Twenty-four hours before admission the mother had noticed swelling of the infant's scrotum, followed by swelling of the feet and legs. During this period the baby had passed only a few drops of urine.

Previous History.—This was the first live birth; the mother had been delivered of a stillborn 7½-months foetus three years previously. Immediately after confinement a blood test had been taken, which she understood was "negative." Throughout this second pregnancy she had attended an antenatal clinic, but the blood Wassermann reaction had not been ascertained. The pregnancy and labour had been normal. The baby was delivered at full term and weighed 9 lb. 1 oz. (4.1 kg.). He appeared healthy at birth and remained well until he was 1 month old.

On close questioning the mother stated that from that time she had noticed that the baby lay with his legs in a "frog-like" position and did not kick. The ankles appeared to be tender when touched. About the same time a rash had been noticed on the thighs and round the anus. The rash had persisted, but varied in intensity. From the age of 2 months the infant appeared to have some nasal obstruction, but no discharge had been noticed. These symptoms had apparently not been sufficiently marked to cause the mother much anxiety. The infant had been breast-fed for the first six weeks, and thereafter a dried milk preparation had been used. He had been vaccinated 12 days before admission without any constitutional disturbance.

Clinical Examination.—The child appeared seriously ill and was very pale. His temperature was 101° F. (38.3° C.) and he weighed 14 lb. 8 oz. (6.6 kg.). There was gross pitting oedema of the whole body. Over the buttocks and inner side of the thighs there was a reddish-brown shiny rash with sharply defined edges. The vaccination lesion on the left arm was dry, with a well-formed scab. There was no surrounding local inflammation. The throat was obscured by much sticky mucopus, and there was a green discharge from the anterior nares. The lymph nodes of the sub-occipital, lateral cervical, axillary, and inguinal groups were enlarged, discrete, and firm. No abnormality was detected in the heart or lungs. The blood pressure was 95/45. There was a small umbilical hernia. The liver was palpable 2 in. (5 cm.) below the costal margin. It was firm in consistency, with a well-defined edge. The spleen was palpable 1 in. (2.5 cm.) below the costal margin, and there was marked ascites.

Special Investigations.—Urine: Scanty and frankly blood-stained; albumin +++ (Esbach 8 parts per 1,000); deposit contained large numbers of red blood cells, hyaline and granular casts. Blood: haemoglobin, 56% (Haldane); white cells, 12,800 per c.mm. (polymorphs 36%, eosinophils 1%, lymphocytes 61%, plasma cells 2%); urea, 48 mg. per 100 ml.; Wassermann and Kahn reactions both strongly positive. Radiological examination of both wrists revealed bilateral epiphysial irregularity at the lower ends of the bones of the forearm, which showed a disordered reticulation and marked periosteal reaction through the length of the shafts. Similar changes were seen in the long bones of the limbs. The appearances were consistent with congenital syphilitic osteitis and epiphysitis.

The mother's blood gave strongly positive Wassermann and Kahn reactions. She was subsequently found to be suffering from asymptomatic neurosyphilis (C.S.F.: cells, 37 per c.mm.; protein, 45 mg. per 100 ml.; globulin, slightly increased; W.R., ++; Lange, 5433210000).

Starting on the day of admission, the infant was given procaine penicillin G, 1 ml. (300,000 units) daily, by intramuscular injection, for 17 days (total dose 5,100,000 units). On the twelfth day, acetarsol, 1 gr. (65 mg.) daily by mouth, was given in addition; but this was discontinued after five days because of pyrexia, vomiting, and refusal of feeds.

After a rest period of 14 days a course of "acetylarsan" was started, 0.7 ml. (0.014 g.) being given by intramuscular injection, once weekly, for 10 weeks (total dose, 0.14 g.).

For three days after admission the baby remained very ill, with pyrexia 103–105° F. (39.4–40.5° C.). Thereafter his condition improved gradually. A fortnight after admission the oedema and ascites had disappeared. There was further enlargement of the liver, but the spleen had decreased in size and the lymph nodes were less prominent. The skin rash had faded. About this time there was a further bout of pyrexia, with vomiting and deterioration in the child's general condition. This lasted for two days, and from then on there was steady improvement. On discharge, after 11 weeks in hospital, the baby weighed 17 lb. (7.7 kg.). The liver edge was palpable 1 in. below the costal margin; the lymph nodes were no longer to be felt. The urine contained a trace of albumin and occasional red cells only.

The child was seen again on July 11. He was then aged 7 months 3 weeks and weighed 19 lb. 6 oz. (8.8 kg.). He was alert, active, and of good colour. The blood Wassermann and Kahn reactions were still positive. The urine still contained a trace of albumin and occasional red blood cells.

Comment

References to acute nephritis in infants are rare. Most authors mention the occurrence of this condition in some cases of congenital syphilis but give no figures of the incidence. Espirito Santo and Mauricio Correia (1941), in their report of a case of acute nephritis in a syphilitic infant aged 3 months, estimated that about 40% of infants suffering from renal diseases are syphilitic.

The renal changes in some of these cases are typical of acute glomerulonephritis. Yampolsky and Mullins (1945), in America, reported a case of a female infant aged 2 months suffering from congenital syphilis and acute nephritis. At necropsy the kidneys showed extensive second-stage glomerulonephritis.

In the case reported here it is interesting to speculate on the part, if any, played by vaccination in the production of this clinical picture. It is widely recognized that vaccination is contraindicated in infants suffering from congenital syphilis, and it is possible that in this case the procedure was responsible for an exacerbation of the syphilitic infection, with the development of acute nephritis as a secondary phenomenon.

My thanks are due to Dr. L. Rosenthal, medical superintendent of Wakefield General Hospital, for permission to publish this case; also to Dr. C. C. Harvey, consultant paediatrician, and Dr. J. A. Burgess, consultant venereologist, for their help both clinically and in the preparation of this report.

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