a heart murmur at this stage the blood was examined for sulphhaemoglobin and methaemoglobin, with negative results. However, a systolic murmur was again heard at the age of 10 weeks, and soon after a precordial thrill also developed and the child became increasingly dyspnoeic. E.C.G. was within normal limits except for the presence of slight left axis deviation and a suggestion of left ventricular hypertrophy in the precordial leads. Radiological examination of the chest showed some widening of the upper mediastinum with a slightly globular heart shadow. The lung fields were clear. The diarrhoea, which had persisted throughout, now became profuse, and death occurred from uncontrollable dehydration at the age of 13 weeks.

At the post-mortem examination a bilocular heart was found with the aorta and pulmonary artery arising in the correct relationship from the common ventricle. The aortic arch was right-sided and the pulmonary artery was hypoplastic. On each side a superior vena cava and two pulmonary veins entered the common auricle. Each lung possessed three lobes. There was a complete absence of spleen and splenic tissue. The stomach was represented by a thick-walled widening of the gut embedded in the liver. The pancreas consisted of a small round mass of tissue.

COMMENT

In such cases as this the diagnosis of splenic agenesis might be suspected during life from the unusual blood picture and the presence of cyanotic heart disease.

I am indebted to Dr. G. M. Komrower and Mr. A. Jolleys for permission to report this case; to Dr. H. B. Marsden for the post-mortem findings; and to Dr. Komrower for his encouragement and advice.

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Polyneuritis Caused by Antirabic Vaccination

Polyneuritis is one of the neuroparalytic complications of antirabic vaccination. The incidence of neurological complications during prophylactic treatment seems to vary widely, having been reported as 0.017% (Greenwood, 1945), 1.3% (Babés, 1912), and in India about 1 in 8,500 cases, or 0.012% (Ahuja and Brooks, 1951). The sexes are affected equally, but the extremes of age are generally immune. In my series of 2,455 patients receiving antirabic vaccination from August, 1954, to July, 1955, neurological complications occurred in five (0.2%), two of whom developed polyneuritis.

The pathogenesis of polyneuritis is controversial. Van Rooyen and Rhodes (1948) suggest that antibodies develop to the brain tissue, and that an antigen-antibody reaction occurs in the perivascular tissues, giving rise to inflammation and degeneration of the vessel wall.

With regard to its pathology, both mesodermal and parenchymatous toxi-degenerative lesions characterize the palsy. Either of these may occupy the foreground; they may also coexist, yet not develop in the same parts of the tissues.

The incubation period is between the tenth and fifteenth days from the first prophylactic dose of vaccination, with a limit of five weeks, the period being shorter than the incubation period of the disease itself, and dependent not on the interval elapsing after the bite but on the treatment.

Among the different forms of neurological complication—consisting of acute ascending paralysis of the Landry type; dorso-lumbar myelitis; cranial neuritis; polyneuritis; and meningo-encephalitis—dorso-lumbar myelitis is the commonest and polyneuritis is the rarest. The rarity of the latter condition warrants this report.

CASE 1

A Hindu peon aged 37 was admitted to the J.A. Group of Hospitals, Gwalior, complaining of weakness in all his limbs of three days' duration. The onset was gradual. As he had been bitten by a rabid dog, a course of antirabic vaccination (5 ml. for 14 days) was given. Three days after the last injection he felt weakness in all limbs, which gradually worsened. There was nothing significant in his personal and family histories. On examination there was lower motor neurone paralysis of the limbs, with severe weakness, loss of all tendon-jerks except the supinator, and tenderness of the calf muscles. There were no other subjective or objective sensory disturbances and no evidence of myelitis. Other systems were normal, and he had full sphincteric control during his illness. Laboratory investigations revealed no abnormality in any system.

He was treated in hospital for nearly four months with vitamins B₁ (100 mg.) and B₁₂ (100 µg.) parenterally on alternate days. For the first two months the condition deteriorated, and there was wasting of the distal muscles of the limbs. Subsequently he improved slowly. When he was discharged from hospital the limb weakness, loss of all tendon-jerks except the supinators, and the wasting of the distal muscles persisted, though there was slight improvement. At the time of writing he could walk about, but had very little power in his hand muscles.

CASE 2

A Hindu office superintendent aged 42 was admitted into the J.A. Group of Hospitals, Gwalior, having had pain and weakness in all limbs for 10 days. The onset was gradual, with fever. Two days after being bitten by a rabid dog he was put on a course of antirabic vaccination (5 ml. each dose). Following the seventh injection he had slight fever and felt weakness in his limbs. After an interval of four days two more injections were given. As the weakness increased the injections were stopped, and he was admitted to hospital. There was nothing significant in his family history. At the age of 15 he had received 14 injections (each 5 ml.) of antirabic vaccine after being bitten by a rabid dog. On examination there was lower motor neurone paralysis of all limbs, with marked weakness, complete loss of tendon-jerks except the supinators, and no muscle wasting. The calf muscles were tender. There were no other subjective or objective sensory disturbances and no signs of myelitis. Other systems were normal and sphincteric control was retained throughout. Laboratory investigations revealed no abnormality in any system.

He was treated with vitamins B₁ (100 mg.) and B₁₂ (100 µg.) parenterally on alternate days. About two weeks later there were signs of improvement. He gradually recovered after six weeks. After two months in hospital he was discharged with a fair degree of power in all limbs, loss of all tendon-jerks except the supinators, ability to write but inability to type, and no tenderness in the calf muscles.

COMMENT

The first case showed poor improvement even after four months, while the second case improved very well within six weeks. The difference in the degree of improvement could possibly be due to the difference in the amount of vaccine being injected. The persistence of the supinator-jerks, when all the other tendon-jerks were completely lost, was interesting. Sensory disturbances in both cases were very slight.

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