OCULAR MANIFESTATIONS OF POLYARTERITIS NODOSA*†

BY

M. R. NANJIANI

Paisley, Renfrewshire

OCULAR lesions are seen in 10 to 20 per cent. of cases of polyarteritis nodosa and the ophthalmic findings may sometimes be the only means of establishing the diagnosis. The ocular lesions may include bilateral optic atrophy, diffuse choroiditis, retinal detachment, iritis, bilateral embolism of the central retinal artery, and perforating necrosis of the sclera. Posterior segment changes may involve either the choroid or the retina.

The choroidal lesions are due to involvement of the posterior ciliary arteries.

The retinal involvement may also be secondary to hypertension when the kidneys are affected by the pathological process (Duguid, 1954; Ballantyne and Michaelson, 1962).

Choroidal vessel changes consist chiefly of fibrinoid degeneration leading to total occlusion (Boeck, 1965). Sometimes there may be scattered foci of non-granulomatous uveitis (Blodi and Sullivan, 1959).

In the following case, which illustrates some of these features, the diagnosis was made more difficult by false positive serological tests for syphilis.

Case Report

A 22-year-old married female was admitted to the Surgical Unit of the Royal Alexandra Infirmary, Paisley, with acute abdominal pain on December 28, 1964.

Laparotomy on the day of admission revealed no evidence of peritonitis or of intestinal obstruction. Exploration revealed small palpable nodules in both lobes of the liver and the spleen was enlarged to twice the normal size. A small nodule from the liver was taken for biopsy.

Biopsy Report.—Microscopy of this portion of liver $2 \times 2 \times 0.5$ cm. shows numerous areas of infarction of several days' duration in the liver tissue with much chronic inflammatory exudate around the small vessels and the portal tracts. The appearances are considered to be those of polyarteritis nodosa although specific vascular appearances are not striking.

Routine blood tests, however, revealed a weak positive Wassermann reaction with a positive Meinicke test.

Progress.—The patient was therefore given antisyphilitic treatment, but during the next 3 months she developed widespread lesions affecting the skin with necrotic areas, the haemopoietic system with anaemia and thrombocytopenia and an erythrocyte sedimentation rate (Westergren) of 115 mm./first hour, the central nervous system with a left hemiplegia and mental changes, and cardiac involvement with ischaemic changes in the electrocardiogram.

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† Address for reprints: Royal Victoria Eye Infirmary, Mansion House Road, Paisley, Renfrewshire, Scotland.

A treponemal immobilization test was negative, and it became obvious that she was suffering not from syphilis but from a general vascular involvement in keeping with polyarteritis nodosa. She was now given oral prednisolone 20 mg. three times a day, but after 2 weeks her vision began to deteriorate. Both pupils showed lack of sustained contraction to light and the discs were rather pink. The visual acuity in both eyes was reduced to counting fingers, and one week later the vitreous became cloudy and there were areas of posterior circumscribed choroiditis with some serous detachment of both retinae. She was given a deep subconjunctival injection of Depomedrone 20 mg., but the progress of the ocular lesions was not affected.

Termination.—Her general condition deteriorated and she died 5 days later.

Permission for a *post mortem* examination was not granted.

Discussion

This case is of particular interest in view of the false positive Wassermann reaction. Tertiary syphilis is associated with endarteritis and periarteritis with thrombotic lesions like those of polyarteritis, and also optic atrophy as in this case. It was soon appreciated, however, that this patient had a rapidly progressive disorder not in keeping with tertiary syphilis and a biological false positive reaction was suspected. There was an immediate but brief initial response to steroids; there was a dramatic fall in fever and tachycardia, the abdominal pain subsided, and the erythrocyte sedimentation rate fell from 115 to 43 mm./1st hour (Westergren).

Thereafter the disease relapsed despite steroid therapy, which is not unusual in polyarteritis nodosa. The progress of the ocular disease was not arrested by steroids.

Summary

A case is presented of polyarteritis nodosa with bilateral optic neuritis and circumscribed posterior choroiditis with serous retinal detachment and vitreous turbidity. The differential diagnosis from tertiary syphilis is discussed.

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