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CASE REPORTS

Stroke in a young Indian patient receiving intravenous immunoglobulin

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Abstract

Intravenous immunoglobin administration is considered very safe. Rare complications like stroke can be very disabling and needs mentioning before offering the therapy to the patient. We report a young Indian patient with no known risk factor of stroke, received intravenous immunoglobulin for treatment of chronic inflammatory demyelinating polyneuropathy, and developed ischemic stroke involving terminal internal carotid artery on the second dose of treatment.

INTRODUCTION

Intravenous immunoglobin (IVIG) therapy is given for various immunological conditions and is considered to be quite safe. We report a rare complication of stroke during IVIG therapy in a young Indian patient.

CASE REPORT

This 37 years young gentleman was admitted with insidious onset, progressive paresthesia in soles with slipping of slippers from his feet of 1½ years duration. There was no upper limb symptom. Examination revealed lower limb distal muscle weakness of 1/5 according to Medical Research Council grading, and proximal weakness of 4/5. The muscle power of the upper limbs were normal. There was sensory loss to pain distally in his lower limbs with generalized areflexia. Nerve conduction study showed severe demyelinating neuropathy with nerve biopsy showing focal demyelination. He was diagnosed as chronic inflammatory demyelinating polyneuropathy. He was planned to be treated with IVIG in doses of 0.4gm/Kg/day for 5 days. After the second dose of IVIG, he developed sudden onset left hemiparesis. Brain MR imaging showed large right middle cerebral artery territory infarct and MR angiography showed complete blockage of the same terminal internal carotid artery. He had no evident risk factor for ischemic stroke.

On investigation the hemogram and routine biochemistry were normal. Screening with echocardiogram, X-ray chest, ECG, rheumatoid factor, antinuclear antibody, antineutrophil cytoplasmic antibody (ANCA), Leiden factor V, anti-thrombin III, protein C and S, anticardiolipin antibody, antiphospholipd anibody and bone marrow were also normal.

DISCUSSION

This is the report of a patient with chronic inflammatory polyneuropathy who developed ischaemic stroke second day following IVIG treatment. No other risk factor of stroke was found in this patient. The young age of patient, absence of known risk factors and the temporal relationship with IVIG treatment suggested that the stroke was related to the IVIG.

Common complications of IVIG therapy are headache, chills, myalgia, and infections. Uncommon and rare complications include aseptic meningitis, anaphylaxis, renal tubular necrosis, and thromboembolic complications, such as myocardial infarction, deep vein thrombosis, and pulmonary thrombosis.[1] There has been reports of stroke as rare complications following IVIG therapy.[2-9] In a review of 16 cases of stroke associated with the administration of IVIG, Caress *et al* reported that this constituted 0.6% of patients who received IVIG treatment. All but one patient had stroke risk factors, and all the strokes implicated large or medium-sized cerebral artery occlusion. The exact mechanism of the stroke is not well defined.[3] Sztajzel *et al* demonstrated transient vasospasm in middle cerebral artery 3-10 days after IVIG therapy.[10] A rise in serum

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viscosity may also be critical in precipitating thromboembolic events.[11] On the other hand, Horn *et al* reported improvement of stroke in antiphospholipid antibody syndrome using IVIG.[12]

In reviewing the use of IVIG in the context of thromboembolic and stroke complications, Dalakas and Clark commented that though the events are rare, they may have disabling or catastrophic consequences. IVIG should thus only be used when clearly indicated.[13] This is particularly so in patients who have risk factors for stroke.

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