

Case Report**ISOLATED PERIPHERAL NERVE DAMAGE:
A RARE COMPLICATION OF MENINGOCOCCAL
DISEASE****Khalid Awad Mohamed FRCPCH**

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Abstract

Various neurological complications have been reported following meningococcal disease with or without meningitis, mostly cranial nerve palsies or focal neurological deficit following localised brain or spinal cord injury. We report the case of a 10 year old girl who developed a peripheral Sciatic nerve injury following meningococcal septicaemia and meningitis; the likely cause of this lesion is localised infarction. Recovery was slow and incomplete.

Case History

A previously healthy 10 year old girl with normal past medical, developmental and family history presented with a short history of listlessness, fever and headache; examination revealed neck stiffness and a fine petechial rash, Glasgow Coma scores were 15 and she did not have any focal neurological signs or seizures, her lower limb examination was documented as normal on presentation. A diagnosis of meningococcal meningitis and septicaemia was made and later confirmed with a positive antibody test; she had 100 leukocytes in her CSF, *Nisseria meningitidis* (type B) was isolated from her blood culture, while her CSF culture was sterile. She was immediately treated with antibiotics and clinical improvement was noted within the first 24 hours with resolution of the fever, rash and neck stiffness, there

was no external evidence of extensive purpura or tissue damage.

Three days following admission she was asked to mobilise, she complained that she couldn't walk and she has lost feeling in her left foot; examination then revealed weakness of all muscle groups around the ankle with grade 1 power in ankle dorsiflexors and inverters and grade 0 in her everters, the left ankle jerk was absent and her left planter response was equivocal; she had a sensory loss to all modalities in a sock distribution in the left lower limb. Examination of the rest of her nervous system was normal.

A brain and spinal MRI was normal, nerve conduction velocities were absent in all distal branches of the left sciatic nerve, both motor and sensory, there was evidence of acute denervation of the relevant muscles.

She achieved independent walking in three weeks with the help of intensive physiotherapy and an ankle foot orthotic device; she remained with a marked limp. She complained of repeated trauma to her left foot and ankle because of the sensory impairment.

Over the following year the power improved to grade 4 in all the muscle groups around the left ankle, and apart from a small area in the distribution of the left Sural nerve sensation recovered completely. She remained with a mild limp but was able to return to her normal life and activities.

Discussion

The most likely cause for this isolated distal sciatic nerve lesion is a localised infarction affecting the sciatic nerve in the thigh; a compressive haematoma is also a possibility, although in the absence of signs of compression in thigh and the absence of evidence of active bleeding in the acute presentation, this is a less

likely possibility.

Infarction causing neurological sequelae has been reported before in patients with meningococcal disease, however, this was mainly in the central nervous system, in a large series reporting on complications of meningococcal disease; nerve deafness and CNS involvement were the two commonest neurological complications, CNS involvement mostly presented as hemiplegia, caused by cerebral infarction^(1, 2).

One report of spinal cord infarction in a 25 year old man described the development of devastating tetraplegia following meningococcal disease, the patients spinal MRI revealed high signal in the spinal cord and medulla consistent with an infarction.⁽³⁾

Lumbo-sacral radiculopathy was reported as a rare complication in an adult; while Chiu et al reported multiple cranial nerve palsies complicating the disease in an infant; there was evidence of wide spread cerebral infarction on MRI imaging, gradual improvement in the 3rd and 7th cranial nerves followed⁽⁴⁾.

Various other cases of cranial nerve involvement are well documented in the literature; mostly affecting the 8th cranial nerve but also combinations of the other lower cranial nerves.

There was one report in the literature of Peripheral neuropathy in a child who developed a picture of polyneuritis multiplex following severe meningococcal disease with disseminated intravascular coagulation; the latter complication was suggested as the cause of the neuropathy.⁵

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(2) Jones et al. How many children could we save? Child Survival II, Lancet 2003

(3) Dewey K, Brown K. Update on technical issues concerning complementary feeding of young

The author is not aware of isolated peripheral nerve injury reported as a complication of meningococcal disease.

Conclusion

Peripheral nerve injury can rarely present as a complication of meningococcal disease.

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