# Flaccid paralysis of the lower limbs of subacute onset in the context of respiratory infection

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## Introduction

Most respiratory diseases in children are of viral origin and limited, although sometimes very severe and progressing to respiratory distress. Such infection may also be responsible for central nervous system involvement such as encephalitis, myelitis or polyneuritis.

## Case report

DE, a 11-month-old girl, was first seen at the emergency room for coughing since 3 weeks and beginning fever. No neurological trouble has been noticed. She was discharged home with treatment for bronchitis and otitis. Two days later, she was admitted again because of progressive loss of spontaneous movements of the lower limbs. Clinical examination revealed an extensive flaccid paralysis of the lower limbs with abolition of reflexes. Because of predominant abdominal ventilation she was transferred to pediatric intensive care unit.

## Results

All biological testings including extensive serologies were normal as well as nasopharyngeal aspiration. Chest X-ray showed central bronchopathy. CSF examination, including cultures and PCR, was normal. Cerebral and spinal magnetic resonance imaging (CSMRI) (fig. 1) revealed a hypersignal extending from C3 to T4 compatible with a diagnosis of acute transverse myelitis(↙)as well as an Arnold Chiary type I (↙). Additional stool analysis showed the presence of enterovirus viral RNA. She was then placed on high dose of intravenous (IV) prednisone 30 mg/kg/day followed by a 10-day oral degressive regimen. Soon after the initiation of such treatment she became more alert. She also recovered reflexes as well as some lower limb movement and better sitting position. She benefits from daily physiotherapy. Six weeks later she continued to recover and starts to stand upright.

The control CSMRI 3 months later (fig. 2) shows the resolution of the spinal cord injury (↙). The electromyographic examination performed is normal.

## Discussion

Enterovirus infection, especially due to D68 (EV68) in children may cause very severe respiratory illnesses associated to bad cough and fever. This polio-like virus is also a neurotropic agent that may cause acute flaccid myelitis (AFM) through inflammation and destruction of the spinal cord anterior horn cells. It is usually preceded by respiratory symptoms in the majority of cases. Several cases of EV68 associated AFM have been already described. Treatment should be prompt and may include high dosage regimen of prednisone, IV immunoglobulin and less frequently plasma exchange.

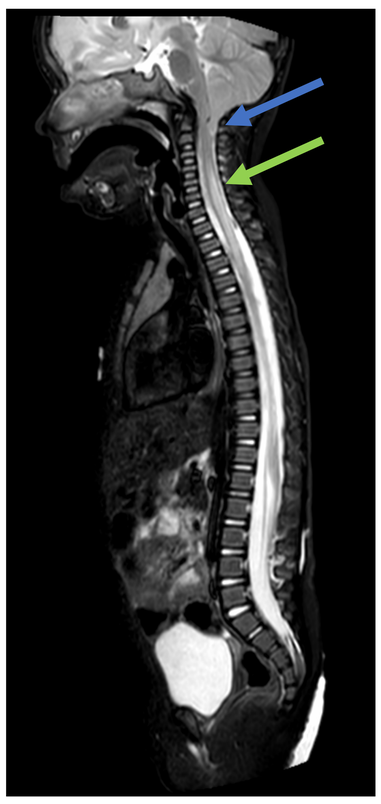

Fig. 1 Initial MRI

Fig. 2 Control MRI

## Conclusion

This case reminds us that clinical evaluation and follow-up should be rigorous and global even in cases of acute respiratory diseases. Neurological complications requiring special attention and aggressive treatment may also occur subacutely.