

Hypokalaemic quadriparesis

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Abstract

Amphoterecin B is nowadays being used frequently as a treatment for Kalazaar (visceral leishmaniasis). Hypokalaemia induced by amphoterecin B is a recognised adverse effect and a patient on amphoterecin B therapy may develop hypokalaemic quadriparesis. Such a case of quadriparesis is presented in this report.

Keywords: Hypokalaemic quadriparesis; amphoterecin B; Kalaazar.

Introduction

Kalazaar or Visceral Leishmaniasis is an infection caused mainly by parasite *Leishmania donovani* complex, transmitted by sandflies. It is endemic in the tropical regions of America, Africa and the Indian subcontinent. The pentavalent antimonials (sodium stibogluconate) has been the drug of choice for the disease, developed more than 40 years ago.¹ However, the refractory cases to sodium stibogluconate are becoming more frequent, which has led to the use of alternative drugs. Amphoterecin B is an effective second line drug², though it has many adverse effects. Of the many side effects, significant decrease in serum potassium requiring oral supplement has been reported in 25% of the cases.³ Hence, with more frequent use of this drug, hypokalaemic quadriparesis, is going to be more apparent. We describe here a case report to illustrate this point.

Report

Mr. Chet Narayan Yadav, an 18-year-old boy from Rautahat was complaining of fever for the last four months. He was diagnosed as a case of Kalaazar (bonemarrow proved), a month back. He was then treated with Amphoterecin B injection for 14 days at Gaur Hospital. He seemed to have shown a complete response to the treatment and hence was discharged. However, after 2 days of completion of the therapy, he noticed weakness of both the lower limbs, which gradually progressed to the upper limbs and remained bed bound without 48 hours. For this reason he was brought to the emergency department of TUTH. However, there was no history of incontinence of bowel and bladder. There was no preceding history of trauma, diarrhoea and vomiting nor he was on any medication. He did not give history of similar attacks in the past and none of his family members suffered from similar illness. Then he was admitted in the Neuro ward bed number 9 on 05/04/08.

On examination, he was afebrile and the vitals were maintained. His higher mental functions and the cranial nerves were intact. However, he had definite weakness of both the upper and lower limbs with power of 3/5 in the lower limbs and 4/5 in upper limbs and decreased tone in all four limbs. Knee jerks were absent bilaterally, though rest of the jerks were preserved. Plantars were bilaterally downgoing and sensory involvement was not there. Similarly, there were no meningeal and cerebellar signs.

On investigation, his blood counts, blood sugar, blood urea, creatinine were within normal limits. The only abnormality detected was the serum potassium, which was persistently low (serum K⁺=2 mmol/l). The LP reports were also absolutely normal.

With the provisional diagnosis of hypokalaemia, he was initiated treatment with the infusion of KCL, 120 mEq/l over 24 hours. The very next morning, he showed improvement in the power of the limbs. The serum K at that time was 3.6 mEq/L. The infusion was continued for 24 hours more and on the 2nd days, he had almost complete recovery with the ability to walk, the serum K⁺ was 3.5 mEq/L then. During the same time, nerve conduction study was carried out. In that, distal latency, conduction velocity and F wave latency were found to be normal. Thus Guillian Barre Syndrome was ruled out in this case as it was also considered in the differential diagnosis.

After observing for one week, he was discharged with complete recovery.

Discussion

The flaccid paralysis in this case is due to prolonged hypokalaemia, which was induced by Amphoterecin B infusion.

Amphoterecin B is an alternate drug for leishmaniasis. Though it has a high cure rate and low relapse rate, it has many adverse effects. For example, 70-93% of patients complain of fever (in excess of 40°C) chills, headache, anorexia and

vomiting as a part of general adverse effect. Anaphylaxis, cardiac arrhythmias and seizure are a part of idiosyncratic reaction. Though there is not much data on hypokalaemic quadriparesis, hypokalaemia has been reported frequently in about 25% of the patients. Similarly nephrotoxicity has been one of the most serious adverse effects. Amphotericin B is being used more frequently and as this drug is being made available through Infectious Disease Control programme, Ministry of Health, His Majesty's Government of Nepal at district hospitals, we may be seeing many cases of hypokalaemic paraparesis or quadriparesis, which maybe managed locally without referring to the tertiary centres if high index of suspicion is considered. Secondly, patients on Amphotericin B should be monitored for potassium level as well to prevent the neurological complications like this.

References

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