CASE REPORT

Infantile Tremor Syndrome Persistence in Era of Development: An Old Story

Anand Kumar¹ · Gayathri M. Rao¹ · Beena V. Shetty¹

Received: 17 September 2015 / Accepted: 7 November 2015 / Published online: 1 December 2015
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Abstract Infantile tremor syndrome is seen worldwide more commonly in the developing countries. Although various protein energy malnutrition awareness programme being run in many of these countries including India yet there is persistence of this disease. Here we present a case of 13 month old female child who visited RAPCC paediatrics OPD of Govt. Wenlock Hospital Mangaluru with history of respiratory distress, fever, tremor in limbs and loss of milestones. On examination she had pallor, hyperpigmentation in axilla and toes. Investigatory findings showed megaloblastic erythroid hyperplasia, hemoglobin-1.6 g % and CT scan of brain showed central atrophic changes.

Keywords Infantile tremor syndrome · Vitamin B₁₂ · Folate · Malnutrition

Introduction

Acute infantile tremor syndrome(ITS) is seen in developing countries worldwide [1]. ITS is clinically diagnosed by symptoms and signs which consists of pallor, tremors, hyperpigmentation of skin and developmental regression of milestones. The milestones already achieved regress with increasing age of the baby [2]. Tremors and demyelination in the brain have also been reported [3]. We report a case of a 13 month old female child who visited the OPD of

RAPCC centre of Government Wenlock Hospital, Mangaluru.

Case Report

A 13 month old female child presented with progressive respiratory distress for a week, fever and cough on and off for 1 month. She also had history of tremors involving both upper limbs, poor feeding and decreased activity. Her developmental history was normal for age till 6 months when she started losing milestones like cooing and rolling over. She was immunized as per age. No other significant history was present.

Investigations

Child was drowsy and lethargic.

Day 1

Glasgow coma scale	13/15
Heart rate	180/min
Respiratory rate	52/min
Capillary filling time	>3 s
Blood pressure	95/60 mm of mercury
Pallor	+++
Hyperpigmentation	b/l axilla, toes and knuckles and sparse hair
Hemoglobin	1.6 g %
Total leucocyte count	3700
Platelet count	29,000
Reticulocyte count	0.6
Direct Coombs test	Negative

✉ Gayathri M. Rao
gayathri.rao@manipal.edu

¹ Department of Biochemistry, Center for Basic Sciences, Kasturba Medical College, Bejai, Mangalore, Karnataka 575004, India

Stool for occult blood	Positive
Bone marrow examination	Megaloblastic erythroid hyperplasia
Peripheral smear	Macro ovalocytes, anisopoikilocytosis
Thyroid function test	Normal
Total and direct bilirubin	Normal
CT scan (brain)	Central atrophic changes

Bone Marrow Examination: Megaloblastic Erythroid Hyperplasia to Correlate Further with Vitamin B₁₂ and Folate Levels

Based on the clinical and radiological findings, a diagnosis of infantile tremor syndrome was made and packed cell infusion was given in aliquots over 3 days as the treatment modality. Baby was supplemented with vitamin B₁₂, folate and nutritional supplements in the form of proteins were given. The tremors improved and child became active over a period of 2 weeks and was discharged with iron and vitamin B₁₂ supplements.

Day 7 (after initiation of treatment)

Hemoglobin	14.4
Total count	9400
Platelet	72,000
Folate	4.35 (4–18)
X-ray chest and wrist	Normal
Methylmalonic acid (MMA)	Negative

Discussion

Infantile tremor syndrome is mainly a clinical diagnosis in a child who presents with malnutrition, tremors in limbs and decreased activity seen in the age <2 years. They may have episodes of acute infections and hyperpigmented areas on hands, feet, knuckles and knees. There is also regression of the milestones previously achieved [2].

There are multiple causes for development of ITS but the most accepted one is vitamin B₁₂ deficiency [4]. This deficiency is seen when the growing child is given only breast milk for a long duration without other nutritional food. The cause for neurological deficit seen in the brain may be due to decreased vitamin B₁₂ transporter in CSF [5].

As said earlier ITS is a clinical diagnosis with pathological and biochemical findings suggestive of megaloblastic anemia and low serum levels of vitamin B₁₂ and folate with methylmalonic aciduria. The CT scan findings of central atrophic changes are commonly seen [6, 7].

The treatment of ITS should be started based on clinical suspicion and consists of correction of anemia, vitamin B₁₂ and folate deficiency along with protein energy supplementation. As in this case vitamin B₁₂ level could not be determined still a diagnosis was made clinically and the patient was treated with a healthy outcome.

Compliance with ethical standards

Ethical approval This article does not contain any studies with human participants performed by any of the authors.

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