

STUDY OF CLINICAL PROFILE AND ESTIMATION OF VITAMIN B12 LEVEL IN INFANTILE AND PRE-INFANTILE TREMOR SYNDROMEVivek Sirolia¹, Sunil Arya²**HOW TO CITE THIS ARTICLE:**

Vivek Sirolia, Sunil Arya. "Study of Clinical Profile and Estimation of Vitamin B12 Level in Infantile and Pre-Infantile Tremor Syndrome". Journal of Evolution of Medical and Dental Sciences 2014; Vol. 3, Issue 40, September 01; Page: 10134-10137, DOI: 10.14260/jemds/2014/3315

ABSTRACT: Infantile and Pre infantile i Tremor syndrome is a peculiar condition most commonly seen in Indian subcontinent. Although the number of cases with this syndrome has reduced in recent years, finding of additional clinical features made us to present this series.30 cases (25 Pre-Infantile Tremor Syndrome and 5 Infantile Tremor Syndrome) were seen during September 2012 to September 2013. Mean age of presentation was 9.96 month. The male to female ratio is 1:1. Pigmentation and pallor is present in all cases while delayed development in (80%), and tremors in (13%) cases. Hepatomegaly was present in 16(53%) cases while splenomegaly in 6 (20%) cases. LRTI was presenting feature in 43% cases followed by AGE (20%) and malaria (16.6%). Striking features was malaria parasite in 4 (80%)out of 5 infantile tremor syndrome and dimorphic anemia in 13 (43%) cases, with Vitamin B12 level less than 200 in 80% cases. All children received Vitamin B12, antibiotics and folic acid. The mean duration of tremor phase was 10.2days with range 5 to 15 days. There was one mortality due to septic shock. Vitamin B12and folic acid plays significant therapeutic role in ITS management.

Abstract:

INTRODUCTION: Infantile tremor syndrome (ITS) is a rare clinical Disorder characterized by coarse tremors anemia Regression of motor and mental milestones in children. Exact incidence is not known. In India, it accounts for 0.2 to 2 % of pediatric hospital admissions (1-2% in 1960s, 1.1 % in 1975-77 and 0.2% in mid-1990s). Improvement in nutritional status, living conditions and better weaning practices could explain the reducing Incidence rates over the years. It has been primarily reported from India and South East Asia countries In Asia and Africa.

AIMS AND OBJECTIVE:

1. To study clinical profile in Pre- infantile and infantile tremor syndrome.
2. To estimate Vitamin B12 levels in Pre- infantile and infantile tremor syndrome.
3. To study risk factors and management of Pre- infantile and infantile tremor syndrome.

SUBJECTS AND METHODS: All children presenting with typical features of ITS and Pre ITS, admitted between September 2012 to September 2013 (1 year) in pediatric medical ward at Maharaja Yashwant Rao and Chacha Nehru Balchikitshalaya, M.G.M. Medical college, Indore was analyzed.

A detailed history and physical examination was carried out. Investigations including complete haemogram including peripheral smear for anemia and malaria parasite, Vitamin B12, chest x-ray were done for all children.

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RESULTS: The total number of cases seen during this period was 30. All children belong to age group between 6 months to 18 months same as Garg and Srivastava (1969)¹ with mean age 9.96 months and all of them belong to lower socioeconomic group.

The male to female ratio was 1:1. All children were exclusively breastfed till the time of admission except two in which in addition to breast feedings, small quantities of biscuits and rice were given same as Agarwal and Katiyar (1972),² Kaul (1972)³ Ramakumar and Pandove (1975).⁴

Out of 30 children, twenty one admitted during winter and rainy season and nine in summer. Sixty six percent (66.6%) of them belong to severe malnutrition as per IAP classification.

Table I shows clinical features at presentation. In addition to characteristic features hepatomegaly was present in 16 (53%) cases and splenomegaly in 06 (20%) cases.

Thirteen cases (43.33%) had hemoglobin (Hb) less than 5gm/ dl and in remaining cases Hb varied between 5 to 10gm. Dimorphic anemia was predominant picture (43 %) on peripheral smear. Macrocytic anemia was present in 12 (40%) cases.

There was no evidence of tuberculosis and HIV in any of our children. Chest x ray reveals pneumonic patches in twelve cases (40%). Hyperinflation in 2 cases (6.66%). Urine routine and microscopy was done in 1 case reveals 8-10 pus cell but culture was sterile. CSF routine and microscopy done in 1 case where it is normal.

Sl. No.	Clinical features	No. of cases (%)
1. Tremors		
Localized	03	10
Generalized	01	3.33
2. Pigmentation		
Localized	24	80
Generalized	06	20
3. Pallor	30	100
4. Delayed milestones/ Mental retardation	24	80
5. Hepatomegaly	16	53.3
6. Splenomegaly	06	20
7. LRTI	13	43
8. Malaria	05	17

Table I: Clinical features at presentation (n=30)

All children received Iron, folic acid, injection B12, and antibiotics. Twenty five of these children required blood transfusion in addition to above medication. For control of tremors propranolol, carbamazepine and phenobarbitone was used in 03, 01 and 01 cases respectively. The

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total duration required for control of tremors in our cases ranged from 5 to 14 days with mean duration of 10.2 days. There was one mortality due to septic shock.

DISCUSSION: We observed equal sex distribution same as, Chhparwal et al. (1971)⁵ in their study noticed equal sex distribution. We also observed that there was more cases in rainy and winter season in month of September and February in our cases as per earlier studies noticed seasonal variation, while Garg and Srivastava (1969)¹ reported the majority (52.2%) of cases from May to July indicating probably other than viral etiology playing the role in causation of ITS. Apart from typical clinical features, we also noticed presence of splenomegaly in 20% cases. Bajapai et al (1968)⁶ noticed splenomegaly only in 2 cases (out of 11). The probable reason for this high incidence in our cases could be due to simultaneous occurrence of LRTI.

The striking feature noticed in our cases was low level of vitamin B12 in 80% cases and Malaria parasite in 20% cases. This is due to low level of vitamin B12 in mother done in 2 cases while possibly malaria precipitated tremors in these children. The mean duration for tremor control in our cases was 10.2 days with range from 5 to 14 days.

Tandon et al reported the mean duration of tremors as 43.4 days with a range from 3 to 400. Other studies reported that mean being 50.5 days with range from 3-225 days. Duration of tremor was reduced in our cases probably due to addition of vitamin B12.

Majority of our children had LRTI at the time of presentation. Although it has been observed in earlier studies the presence of LRTI. In view of presence of vitamin B12 and decreased duration of tremor phase with addition of vitamin B12, we feel that folic acid and vitamin B12 plays a significant role in management of ITS.

SUMMARY: Compared to the earlier reports, we observed occurrence of ITS equal both in girls and boys, with winter and rainy seasonal predominance, pneumonic patches on imaging studies, Dimorphic anemia and malaria parasite at the time of presentation with low level of vitamin B12 and decreased duration of tremor phase with appropriate therapy. In addition to this there was a higher incidence of LRTI in large no. of cases.

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Date of Submission: 30/07/2014.

Date of Peer Review: 01/08/2014.

Date of Acceptance: 18/08/2014.

Date of Publishing: 01/09/2014.