Study of pernicious anemia in females of Maharashtra population

by

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ABSTRACT

In the present study 60 adult females suffering with precious Anemia aged between 20-50 years were studied. Their neurological signs due to vitamin B12 deficiency were touch in 10 females i.e. 3(5%) in upper limb. and 7(11.6%) in lower limb. Reflex was in 22, 5(8.3%) in UL and 17(28.3%) in lower limb. position 18, 3(5%) in upper limb and 15(25%) in lower limb. Vibration was in 10, 2 (3.3%) in upper limb and 8(13.3%) in lower limb. Clinical symptoms were chronic headache in 12(20%) females, palpitation 6(10%), giddiness 20(33.3%), altered bowel habit 8(13.3%). Tingling 10(16.6), ataxic gait 4(6.6%). The clinical problems were puller 25(41.6%) stomatatis 15(25%), glossitis 11(18.3%), hyper pigmentation of skin 9(15%). This study of vitamin B12 deficiency with various clinical manifestations will be useful for pathologist, clinician to correlate the level of vitamin B12 and its outcome of deficiencies; moreover this new study will have inventive thought because exact cause of failure of vitamin B12 absorption is still obscure.

Key words : Pernicious anemia, Vitamin B12, UL = Upper Limb ; LL = Lower Limb

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INTRODUCTION

Pernicious anemia is also called Addison's pernicious anemia and it was previous referred to as primary anemia. It is caused by failure in assimilation of cynacobalmin (vitamin B12) due to defective production by Intrinsic factor by the stomach. The present trend is to be due to hereditary predisposition which becomes manifest in adult age. In the pernicious anemia size of RBC are large (macroytic) cells are well haemoglobinised. [(1)(2)] Excessive hemolytic activity of abnormal red cells causes anemia, fatty degeneration in various organs haemosiderosis with gastro intestinal and in some cases of nervous system. The clinical features are there is intense pallor of skin, and mucous membrane, soreness of tongue, periodic diarrhea, achlylia gastric, urine contains excess of urobilinogen are present. 5% of pernicious anemic patients had involvement of posterior and lateral column of spinal card causes ataxia, spasticity, numbness, tingling sensation, parasthesia is observed. An increased prevalence of vitamin B12 has been reported in patients infected with HIV [(3)] chronic vitamin B12 depletion (i.e. prolonged low intake or intestinal mal-absorption) results in a state of negative vitamin B12 balance. Megaloblastic anemia is the usual culmination of deficiency of vitamin B12 or folate. Pernicious anemia is on auto immune atrophic gastritis that causes deficiency of vitamin B12 due to mal-absorption. Presence of intrinsic factor antibodies (AIFAB) is viewed as diagnostic marker of pernicious anemia[(4)] hence attempt was made to study the neurological changes, clinical sign and symptoms in the females of adult age who are known for anemic due to menstrual blood loss, and poor nutritional status of India.

MATERIAL AND METHOD

The sixty (60) adult female patients aged between 20-50 years patients who were regularly visiting Govt. Medical College hospital, Nagpur (Maharashtra) were selected for study of pernicious anemia who had a complaint of tingling and numbness of in extremities unsteady gait, easily fatigue, forget fullness toddy and alcohol abuse, chronic headache, lack of interest in the work, history of diarrhea or loose stools, post-surgery of G.I.T under treatment of anti – tuberculosis, or malignancy. As they belong to lower / middle socio – economic status hence they were mal nutritious or under nutritious.

The serum / heparinised plasma collected from patients, the levels of vitamin B12 studied by using automated chemiluninescence system. Vitamin B12 level studied by acridinum ester in the lite reagent and level was below significant values level (i.e. serum vitamin B12 level less than 150ng / L). The period of study was about 3 Year.

OBSERVATION AND RESULTS

Table – 1 : Study of neurological signor in the vitamin B12 deficiency in females - touch to 3(5%) upper limb 7(11.6%) lower limb. Among reflex study 22, 5(8.3%) in upper limb and 17(28.3%) was observed in lower limb. In the position study 18, 3(5%) were upper limb and 15(25.%) lower limb. In the vibration among 10, 2(3.3%) were upper limb and 8(13.3%) were lower limb was observed

Table – 2: Clinical symptoms in female patients with vitamin B12 deficiency were chronic headache was 12(20%), palpitation was 6(10%), giddiness 20(33.3%), altered bowel hobbit 8(13.3%), tingling 10(16.6%), ataxic gait 4(6.6%), was observed

Table – 3 : Signs of deficiency in vitamin B12 in females pallor 25(41.6%) stomatatis 15(25%), glossitis 11(18.3%), Hyper pigmentation of skin 9(15%) was observed

DISCUSSION

In the present study of pernicious anemia in females the neurological signs in the vitamin B12 deficiency the touch positive were 10 among them 3(5%) in UL and 7(11.6%) in LL, Reflex positive were 22 among them 5(8.3%) UL and 17(28.8%) in LL. was observed. The position test was positive in 18, 3(5%) in UL and 15(25.%) in LL in the position test 18 were positive 3(5%) in UL and 15(25%) in LL in the vibration test 10 were positive among them 2(3.3%) UL and 8(13.3%) LL. (table - 1) the clinical symptoms in the female patients with vitamin B12 deficiency prevalence of chromic headache was 12 (20%), palpitation 6(10%), giddiness 20(33.3%), altered bowel habit 8(13.3%), tingling 10(16.6%), ataxia gait 4(6.6%), was observed (table -2) The clinical problems observed in the deficiency of vitamin B12 were pallor 25(41.6%) stomatatis 15 (25%), glossitis 11(18.3%), Hyper pigmentation of sixty 9(15%) (Table -3). These findings were more or less in agreement with previous studies. [5][6][7][8] The exact cause of deficiency of vitamin B12 is not found in English literature. The probable reason could be intake of under nutritious or mal nutritious food or alcohol, tobacco abuse because after feeding liver there is great increase of young corpuscle or reticulocytes in the blood and also diminution in the amount of bilirubin in the plasma. These result suggesting a removal in some way of toxic action both on the red cells and especially on normoblast [9] when the treatment has no effect on the. Aclorhydria this fact suggest that, the latter exist before the onset of anemia and may be pre depositing factor hence it can be hypothesized that, pernicious anemia could be due to the improper division of morula in the fetal

stage of the embryo because due to improper cleavage in fetal life the germ layers loose their assigned function and endoderm or GIT may fail to absorb vitamin B12 and mesoderm may fail to produce haemopoitic function accordingly which might have resulted vitamin B12 into abnormal metabolism of vitamin B12 (i.e. pernicious anemia)

SUMMARY AND CONCLUSION

The present study of pernicious anemia in females with different neurological symptoms, clinical problems, symptoms are useful to clinicians and pathologist to treat or manage the diseases efficiently but this study demands further genetic, embryological and angiological study because exact function of intrinsic factor antibiotics (AIFAB), formation of blood vessels, blood constituents is still unclear

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TABLE – 1

STUDY OF NEUROLOGICAL SIGNS IN VITAMIN B12 DEFICIENCY FEMALE PATIENTS.

Sl no	Neurological signs	No of Patients (60)	UL		LL	
			No.	%	No.	%
1	Touch	10	3	5	7	11.6
2	Reflex	22	5	8.3	17	28.3
3	Position	18	3	5	15	25
4	Vibration	10	2	3.3	8	13.3

TABLE – 2

CLINICAL SYMPTOMS IN THE FEMALE PATIENTS' WITH VITAMIN B12 DEFICIENCY

Sl no	Particulars	No of patients(60)	Percentage
1	Chronic headache	12	20
2	Palpation	6	10
3	Giddiness	20	33.3
4	Altered bowel habbit	8	13.3
5	Tingling	10	16.6
6	Ataxic gait	4	6.6

TABLE – 3

CLINICAL PROBLEMS OBSERVED IN DEFICIENCY OF VITAMIN B12 IN FEMALE PATIENTS.

Sl no	Particulars	No of patients(60)	Percentage
1	Pallor	25	41.6
2	Stomatatis	15	25
3	Glossitis	11	18.3
4	Hyper pigmentation of skin	9	15