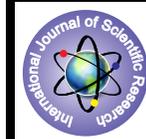


Study of Clinical Profile of Megaloblastic Anemia(100 Cases)



Medical Science

KEYWORDS :

Dr. Tejas Shah

C/2, Mayur Park Soc, Opp Tejvi Park, BH ST Staff quarter, Danilimda, Ahmedabad-28

Dr. Taruna Rathod

3rd Year Resident Doctor, Anatomy Department, B.J.Medical College, Ahmedabad

ABSTRACT

100 patients of megaloblastic anemia are studied from august 2011 to July 2013. We studied various clinical manifestations including detailed examination of hematological and Neurological manifestations. Megaloblastic anemia is diagnosed by complete blood count, red cell indices, blood film examination and assay of two vitamins. Bone marrow examination is not essential for diagnosis of megaloblastic anemia. Cobalamin deficiency was most common cause of deficiency. Aetiological factors were a diet poor in cobalamin or folate, increased requirements during the growth period and pregnancy, and the use of anti folate medication. Physicians managing these patients need to be aware of the timing of blood sampling for assays, detailed history regarding diet and drugs.

Introduction:

The megaloblastic anemia are anemia which are characterized by distinctive cytological & functional abnormalities in the peripheral blood & bone marrow due to impaired DNA synthesis. The cells primarily affected are those having relatively rapid turnover especially haemopoietic precursors and gastrointestinal epithelial cells.

Megaloblastic anemia have a macrocytic peripheral blood picture (MCV > 97 fL), occasionally the red cells are normocytic or even microcytic usually when there is associated deficiency of iron e.g. in pregnancy, coeliac disease and poor nutrition. After establishing the diagnosis, next step is to find out the cause of megaloblastic anemia whether it is due to B12 deficiency or folic acid deficiency or a combined deficiency or some other cause like drugs. It is important to establish the cause of deficiency also for the proper management of the patient^{4,6}.

In our country, the most common cause of megaloblastic anemia are nutritional and malabsorption where as it is the pernicious anemia in Northern Europe.⁶

Aims of study

- 1) To study the incidence of vitamin B12 and folic acid deficiency in patients having Macrocytic anemia (Hb < 11 gm %) in different age groups.
- 2) To study the various clinical features in patients with megaloblastic anemia.
- 3) To study correlation between vegetarian diet and mixed diet and modification of dietary habits.
- 4) To study detailed neurological and hematological manifestations in megaloblastic anemia.

Methods and materials

We have studied 100 patients of Megaloblastic anemia during period from October 2011 to November 2013. In this study patients having anemia (Hb < 11 gm%) and MCV > 97 fl with serum Vitamin B12 level < 250 pg/ml or/and S. Folic acid < 3 ng/ml with normal s. iron level included.

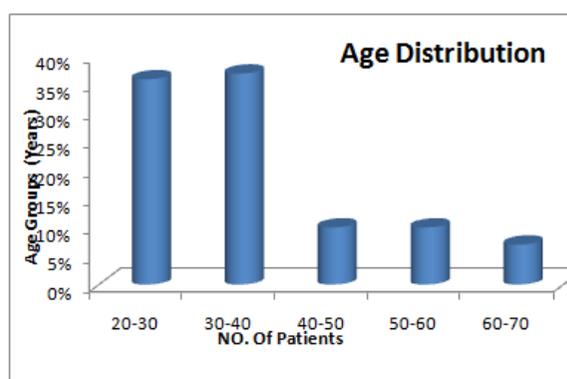
All patients were evaluated regarding detailed history and physical examination. The complete neurological evaluation including higher functions, all cranial nerves, examination of tone, power (according to MRC scale), co-ordination, Romberg's test, all sensory modalities, reflexes, examination of cerebellar signs.

Each patient had undergone a battery of investigations like complete blood count, RBC indices, examination of peripheral smear for cell morphology (PSCM) and others investigations. Thyroid profile was done in each patient with symptoms of neuropathy and/or neurocognitive affection. Serology for HIV was carried out in each patient with symptoms of neuropathy or myopathy. Few patients with symptoms of spinal cord involvement had undergone MRI screening of whole spine.

Result:

In our study, 100 patient with Megaloblastic anemia were included (among them 83 patients were with Vitamin B12 deficiency, 10 patients were with Folic acid deficiency and 7 patients were with both deficiency).

In our study out of 100 patients, 73 (73%) patients were below the age of 40 years, the mean age was 33.83 (SD ± 11.59) years. In Andrew L, Thomas T, Haridas N et al in a study, there were 76.5% of patients below age 50 years.



In our study male to female ratio was 2:1, with neurological manifestations

In our study male to female ratio was 2:1, with neurological manifestations ratio 1.6:1. The male to female ratio was almost equal in all cases except in severe anemia (n=50) and pancytopenia (n=48) cases where male to female ratio was 4:1 and 5:1 respectively.

In our study 54 (54%) were vegetarian and 46 (46%) were mixed diet. SR Kankonkar et al observed that vitamin B12 deficiency is higher in vegetarians compared to non-vegetarian.

Clinical Features	Percent
Fatigue	96%
Anorexia	64%
Pallor	63%
Skin pigmentation	32%
Dyspnoea	47%
Paraesthesia in lower limb	40%
Fever	22%
Nausea/ Vomiting	33%
Headache	33%

Glossitis and Stomatitis	30%
Oedema	28%
Psychiatric Symptoms	30%
Paraesthesia in Upper Limbs	42%
Palpation	16%
Ataxia	17%
Motor weakness in lower limb	15%
Yellow discoloration of sclera & urine	12%
Tingling of tongue	10%
Weight loss	10%
Diarrhoea	2%
Bowel & bladder involvement	2%

SUMMARY & CONCLUSION

Megaloblastic anemia is most common in age groups between 20-40 years of age with male to female ratio 2:1. Megaloblastic anemia was more common in lower socio economic class (69%) and taking diet poor in vit. B12 and folic acid. Cobalamin deficiency was responsible for Megaloblastic anemia in majority of patients (83%), folate deficiency accounted for 10% and 7% had both. Megaloblastic anemia did not significantly differ in (54%) vegetarian and mixed diet (46%), however most of mixed diet patients were occasional Non-vegetarian persons.

The most common symptoms observed were generalized weakness (98%), easy fatigability (96%), anorexia (64%) which are nonspecific, so high degree of suspicion is required to diagnose Megaloblastic anemia. Among all neurological manifestations, 42% had neuropathy and 27% had myeloneuropathy.

REFERENCE

- Introduction and Nomenclature of vitamins. <http://en.wikipedia.org/wiki/vitamin> | 1. Vitamin B12 : <http://www.vitamin-basic.com/index> | 2. History of vitamin B12 : <http://www.vitamin-basic.com/index> | 3. Dr. Niranjana N. Shah et al : vitamin B12 associated neurological diseases. <http://emedicine.medscape.com/article/1152670-overview>. | 4. Harper's illustrated Biochemistry (26th edition) section VI chapter 45. | 5. Dietary sources and supplements. <http://www.vegsoc.org>. | 6. Harrison textbook of internal medicine 18th Edition Vol. 1, Part-2, Chapter 57, Part-7, Chapter 105 & vol. 2 Part-16, section-2, Chapter 377 & Chapter 384. | 7. API textbook of Medicine (8th edition) vol. 2, section 15 chapter 9 and section 19 chapter 24. | 8. Adams and Victor's principles of neurology (9th edition) part-5, chapter 44. | 9. Brain's disease of the nervous system (12th edition) section 6, chapter 28. | 10. K. Park Textbook of Preventive And Social Medicine (18th edition) chapter. | 11. Wintrobe's Clinical Hematology (10th edition) Vol. 1 part 4, section 1, chapter 29,30; section 2 chapter 31. | 12. Mohammed Y. Gharaibeh et al : Hyperhomocysteinemia, Low Folate And Vitamin B12 Deficiency In Elderly Living At Home And Care Residences: A Comparative Study. | 13. Megaloblastic anemia: Prevalence and causative factors (2007) UMA KHANDURI, ARCHANA SHARMA |