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A CASE REPORT IN SOAP NOTE ON SEVERE MEGALOBLASTIC ANEMIA.

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ABSTRACT

A 16-year-old boy on a mixed diet presented with severe macrocytic anemia. laboratory investigations revealed vitamin b12 deficiency and the other laboratory test shows imbalance of Hb, mcv, mch, RDW. The need of the case report in a SOAP note becomes essential for managing the disease. The disease is usually life long and with a number of comorbidities. to manage the condition by accurate standard therapy it is easy to control the disease and further complication arises with the condition. the main objective is to support patient care through the safe evidence-based medicine and cost beneficial use of medication and to maximize the effect of the medication and minimize the risk and the side effect of the medication.

KEY WORDS

soap, cystitis, pallor, cobalamin, ferrous ascorbate

1.INTRODUCTION

A 16-year-old male patient came to hospital with chief complaints of vomiting in standing position from 15 days $\frac{3}{4}$ episodes a day, easy fatigability, loss of appetite from 15 days difficulty in walking and generalized weakness from 5 days, and a history of fever 11 week back on and off with chills relived on tacking medication, no history of hematemesis and melena. on examination he was undernourished , pallor , icterus and cystitis where present . on hematological examination decreased hemoglobin (Hb) and vitamin B12, increased mean cell volume (MCV), mean cell hemoglobin (MCH), increased red cell distribution width (RDW). the final diagnosis was made to be megaloblastic anemia. he was under the treatment of inj monocef, inj pan, inj emset, tab dolo, tab bandy plus, inj eldervit 1 amp, tab Feronia and a unit of blood transfusion. the detailed case was summarized in patient profile form (appendix – 1). after collection the data from the patient medical record, pharmacist makes the subjective objective assessment plan (SOAP). while subjective findings include the chief complaints of patient, objective findings include laboratory data, medical and medication history, physical findings, previous allergies. thus, assessment is related to desired outcomes and end points, drug related problems and to find out whether current therapy is relevant to standard therapy or not.

2.SUBJECTIVE EVIDENCES

Subjective evidences in case were vomiting in standing position from 15 days $\frac{3}{4}$ episodes a day, easy fatigability, loss of appetite from 15 days difficulty in walking and generalized weakness from 5 days, and a history of fever 1 week back on and off with chills.

3.OBJECTIVE EVIDENCES

An objective evidences in this case was pallor, icterus, cystitis, tachycardia (pulse rate – 146 beats / min), Hb- 5.4g/dl (11.6-17.0 g/dl), neutrophils – 78% (40-70%), monocytes – 02% (03-07%), RBC – 1.56 million cell / cu.mm (3.80-5.80million cells / cu.mm), MCV – 121.0 fl (80.00-99.00 fl) , RDW – 21.3% (9.0-14.5%) , vit B12 – 100pg/ml (220-1100 pg/ml).

4.ASSESSMENT

On the basis of subjective and objective evidences, the final diagnosis of the patient was megaloblastic anemia. therapy in this patient must be given in order to prevent the further complications of anemia and to decrease the morbidity and mortality of the patient.

4.ASSESSMENT OF STANDARD THERAPY

4.1.1. FOLATE THERAPY

The dosage range for folate is 1 to 5 mg daily; 1 mg/d is the usual dosage for adults with megaloblastic anemia, while a higher dosage is indicated in hemolysis, malabsorption, alcoholism, and exfoliative dermatitis. However, there is no harm in giving the higher dosage of folate. Oral folate 1 to 3 mg daily for 4 months is usually sufficient for treatment of folate deficiency anemia.

4.1.2. VITAMINE B12 THERAPY

Vitamin B12 deficiency anemia is usually treated with **injections of vitamin B12**. There are 2 types of vitamins B12 injections: hydroxocobalamin. Oral cobalamin is initiated at 1 to 2 mg daily for 1 to 2 weeks, followed by 1 mg daily. parenteral cyanocobalamin is given im in neurologic symptoms because parenteral therapy is more rapid acting then oral therapy.

4.2. ASSESSMENT OF CURRENT THERAPY

Inj.dolo 650mg, Indication and role: – fever and the role is to inhibit the prostaglandin synthesis and cyclooxygenase 3 enzyme there by reducing the fever. Dose: – 650 mg trice daily, ADRs – (stomach discomfort, nausea). Inj. vit b12 1 amp , indication :- treatment of vit b12 deficiency Dose :-1 amp daily for 1 week , ADRs :- (pain at the site of injection, fever and anaphylaxis) , Tab Feronia xt (ferrous ascorbate – 100mg) (folic acid -1.5mg) Indication :- helps in prevention and treatment of folic acid deficiency once daily ADRs:- (metallic taste due to ferrous ascorbate) , Tab bandy plus (ivermectin -6mg) (albendazole -400mg) Indication :- treatment of worm infection Dose :- 400mg od ADRs :- (nausea , vomiting , headache), Inj. monocef (ceftriaxone -1mg) Indication :- used in the treatment of bacterial infection or hospital acquired infection Dose :-1mg twice a day ADRs :- (diarrhea , rash) , Inj. pantop 40mg Indication :- used in a treatment of heartburn , GERD and peptic ulcer disease dose – 40mg once a day ADRs :- (flatulence , joint pain, stomach pain) , Inj.emset (ondansetron -2mg) Indication :- used in a treatment of nausea and vomiting dose – 4mg twice a day ADRs :- (injection site pain , constipation) .

5.FINAL IMPRESSION BY THE PHARMACIST:- The indication, dose, dosage and duration are given accordingly to standard therapy.

6.PLANNING

- To replenish body stores of vit b12 to bring the hematological values to normal and to prevent neurological symptoms.
- To treat complaints of patient and to improve working efficiency of the patient.
- Therapeutic monitoring is necessary in this condition to evaluate the hematological values and the disease-oriented parameters.
- Toxicity monitoring are necessary for the drugs like dolo (hepatotoxicity) vit B12(anaphylaxis) which are more related to disease-oriented parameters.
- Patient education about disease, about drugs and lifestyle modification.
- To educate patient about the diet and the food intake which can be useful to treat anemia.
- Educate the patient about the further complication which can be arises due to the disease.
- To prevent the co morbidities arises from the disease and improve the quality of life.

7.INTERVENTION

In this case the patient is prescribed tab Feronia XT with pan 40. Where Feronia XT contains ferrous ascorbate (100% elemental iron) and pantoprazole is given as antacid to reduce the production of acid in stomach. By reducing the acid production in stomach, it may reduce the absorption of iron in body which may leads to iron deficiency in body. According to pharmacist point of view Feronia XT is replace by tab folvite 2.5 mg (folic acid) because the patient having vit B12 and folic acid deficiency anemia or it can be replaceable with H2 receptor antagonist drugs.

Otherwise, patient is counselled by pharmacist to not take both of the drug at same time pantop should be taken empty stomach before breakfast and Feronia XT is taken after two hours of taking pantop. Antacid is always taken in empty stomach whereas iron supplements are always taken with food or after meal.

8.DISCUSSION

Megaloblastic anemia is a macrocytic anemia in which the size of RBC increases from its actual or normal size. It is the condition in which there is a lack of vit B12 and vit9 (folate) in the body. bone marrow does not produce proper number of cells. The shape of cells is also affected because of the increase in the size of the cell. The red blood cells die earlier from its expected day (12 days) due to this condition. Vit B12 is essential for the DNA synthesis. Vit B12 deficiency is also called as pernicious anemia in which vit B12 does not properly absorbed by the GI tract which causes lack of vit B12 in the body. The external intake of vit b12 is necessary in this condition. the shape of the RBCs changes to oval due to the lack production of the cells from bone marrow. Folic acid deficiency Is due to the lack of folic acid in the RBC or lower amount of folate in the RBC. To cope up with this problem oral folate is given as a standard therapy.

In this case there is a lack of vit B12, it need to be ingested externally with the proper diet. The main common cause of the vit b12 deficiency is due to the improper dietary intake, poor absorption of vit B12 in stomach. Vit B12 is also given in the form of medicine. The oral cobalamin and the parenteral cyanocobalamin are used as a standard therapy in the megaloblastic anemia. The further complication arises due to these conditions if not treated on time are pancytopenia, hemolytic anemia. thrombocytopenia, splenomegaly and hepatomegaly.

This case report describe the patient with severe megaloblastic anemia because of inadequate dietary intake and due to the low socio economic status there is a several restriction in the dietary intake from childhood. However, the patient is 16-year-old and pernicious anemia has been reported the most common cause of anemia in the adult population.

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PATIENT PROFILE FORM (APPENDIX -1)

PATIENT NAME: XYZ AGE: 16 SEX: M/F: M		DATE OF ADMISSION: 19/01/2023 DATE OF DISCHARGE: 27/01/2023	
WEIGHT: 30KG			
COMPLAINTS ON ADMISSION: VOMITING IN STANDING POSITION x 15 DAYS , GENERALIZED WEAKNESS x 5 DAYS , difficulty in walking x 5 days.			
MEDICAL HISTORY: Nil MEDICATION HISTORY: Nil SOCIAL HISTORY: low socio-economic status FAMILY HISTORY: Nil PREVIOUS ALLERGIES: Nil			
PHYSICAL EXAMINATION: tachycardia GENERAL - P+ I+ C- C- L- E- VITAL SIGNS -PR-146 bpm , BP-121/70mm/hg, RR- 20/min, afebrile HEENT -NAD CVS -S1, S2 +, R/R - Nil CNS - Nil			
PROVISIONAL DIAGNOSIS: SEVERE ANEMIA ?			
ROUTINE BIOCHEMICAL INVESTIGATIONS		HAEMATOLOGY:	
Urea: 37.0 mg/dl S.Cr : 0.48 mg/dl Na+: 140.0 mmol/dL K+: 4.2 mmol/dL	AST: 24.0 IU/L ALT: 26.0 IU/L ALP: 89.0 IU/L	TLC- 5,600 cu/mm gm% N: 78% x 10/IU L: 16% 121.0 fL M: 04% 40.3 pg E: 02% 33.3 g/dL	Hb: 5.4 RBC: 1.34 MCV: MCH; MCHC:

Cl ⁻ : 1.28 mmol/dL			RDW: 22.2 % PLAT:1.50 Lac/cumm
BIOCHEMESTRY		OTHERS	
T3 – 1.18 nmol/l T4 – 78.33 nmol/l TSH – 4.58 mIU/ml		Typhi dot – non reactive Malarial parasite – non reactive Ultrasound whole abdomen – cystitis Reticulocyte count – 1.6% Vit B12 – 100 pg/ml	
FINAL DIAGNOSIS: SEVERE MEGALOBLASTIC ANEMIA			



DRUG TREATMENT CHART:

DRUG WITH DOSE & ROUTE		1	2	3	4	5	6	7	8	9
GENERIC NAME	BRAND NAME									
CEFTRIAZONE	Inj. Monocef (IV)(BD)	Y	Y	Y	Y	Y	Y	Y	Y	Y
ONDANSETRON	Inj. Emset (IV) (TID)	Y	Y	Y	Y	Y	Y	Y	Y	Y
PANTOPRAZOLE	Inj.Pantop(IV) (OD)	Y	Y	Y	Y	Y	Y	Y	Y	Y
PARACETAMOL	Tab.Dolo(po)(S OS)									
ALBENDAZOLE	Tab. Bandy 400mg (1 cap) (PO) (od)			Y	Y	Y	Y	Y		
FERROUS ASCORBET (100mg) FOLIC ACID (1.5mg)	Fernia XT (1 CAP) (PO) (OD)			Y	Y	Y	Y	Y	Y	Y
VIT . B12	Inj. Eldervit 1 amp (IV) (OD)	Y	Y	Y						
MULTIVITAMINS	Tab. A to Z (PO) (OD)		Y							
ALBENDAZOLE & IVERMECTINE	1 UNIT blood Transfusion	Y	Y							
	Tab. Bandy Plus (1 STAT)									

DAY	INVESTIGATIONS
D1	GC: Fair , PR: 130 BPM, RR: 18 /m, BP: 121/70mmhg, Temp.: afebrile, SPO2: 98%, RBS: 82 mg/dl, Plaor +, Icterus:+.
D2	GC: Fair, BP: 110/60mmhg, PR:86 bpm, Temp.:97.8F, Palor: +, Icterus:+, SpO2: 97%
D3	GC: Fair, BP: 120/80mmhg, PR:86 bpm, SpO2:97%, Temp.: Afebrile, Palor:+, Icterus:+
D4	GC: FAIR, VITALS: STABLE, NO FRESH COMPLAIN
D5	GC: FAIR, PR: 80 bpm, RR: 20/m, BP: 120/70mmHg, NO FRESH COMPLAIN
D6	GC: FAIR, VITALS: STABLE, NO FESH COMPLAIN
D7	GC: FAIR, VITALS: STABLE, NO FRESH COMPLAIN
D8	GC: FAIR, PR:88bpm, RR: 18/m, SpO2: 98%, BP: 120/80 mmHg, NO FRESH COMPLAIN
D9	

DAY 9 Discharged :

- **Tab. Fernia XT (1 CAP)(PO) (OD)**
- **Tab. Eldervit (1cap)(PO)(BD)**
- **Tab. Zofer 4 mg (SOS)**
- **R/A 1 month in MEDECINE OPD with CBC**