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Anaemia and Homoeopathic Approach

Jv'n Dr. Anita Choudhary, Assistant Professor, Faculty of Homoeopathic Science, Jayoti Vidyapeeth Women's University, Jaipur
E-Mail Id: dranitachoudhary@jvwu.ac.in

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Abstract

Anaemia is a condition in which Haemoglobin concentration in blood, below the lower limit of the normal range for the age and sex of individual. It is a serious worldwide health problem, its particularly affects pregnant women and young children. According to WHO less than 5 years of age children are 42% and 40% of pregnant women worldwide are anaemic.[1] Fatigue, weakness, dizziness and shortness of breath, among others are symptoms of anaemia. Nutritional deficiencies particularly iron deficiency, deficiencies in folate, vitamins B12 and A are important causes of anaemia and infectious diseases, like tuberculosis, HIV, malaria and parasitic infections.

Keyword: Anaemia, Homoeopathy, Homoeopathic Medicine

Introduction

Anaemia

Anaemia is defined as a Hb conc. in blood, below the lower limit of the normal range for the age and sex of individual.

Normal Hb value in blood:

In adults: 13.0 -16.4 g/dl

In women: 11.5 – 15.0 g/dl

In new born: 15.0 -16.0 g/dl

At 3 months infants: 9.5 – 10.5 g/dl

Etiological Classification

1. Anaemia due to blood loss

i) Acute post haemorrhagic anaemia

ii) Chronic blood loss

2. Anaemia due to impaired RBC production

i) Cytoplasmic maturation defect

a) Deficient haem synthesis : Iron deficiency anaemia

b) Deficient globin synthesis :Thalassaemic syndrome

ii) Nuclear maturation defect -

Vit.B12 & folic acid deficiency :Megaloblastic anaemia

iii) Defect in stem cell prolifiration & defferentiation

a) Aplastic anaemia

b) Pure red cell aplasia

iv) Anaemia of chronic disorders

v) Bone marrow infiltration

vi) Congenital anaemia

3. Anaemia due to RBC destruction (Haemolytic anaemia)

a) Extrinsic (Extracorpuscular) red cell abnormality

b) Intrinsic (Intracorpuscular) red cell abnormality

Morphological classification

1. Microcytic hypochromic anaemia : IDA , sederoblastic anaemia , anaemia of chronic disease, thalassaemia.

2. Normocytic normochromic anaemia : After acute blood loss , haemolytic anaemia , bone marrow failure.

3. Macrocytic normochromic anaemia

- Megaloblastic anaemia.
- Iron Deficiency Anaemia
- Commonest nutritional deficiency disorder.

Etiopathology: Iron deficiency leads to inadequate Hb synthesis.

- **Increased Blood Loss**

1. Uterine – Excessive menstruation in reproductive years , repeated miscarriages , at onset of menarche , post menopausal uterine bleeding.

2. Gastrointestinal – Peptic ulcer , haemorrhoids , hook worm infestation , ca of stomach & large intestine , oesophageal varices , hiatus hernia , chronic aspirin ingestion , ulcerative colitis , diverticulosis.

3. Renal tract – Haematuria , haemoglobin uria

4. Nose – Repeated epistaxis

5. Lungs – Haemoptysis

- **Increased Requirements** :

1. Spurts of growth in infancy,childhood & adolescence
2. Prematurity
3. Pregnancy & lactation

- **Inadequate Dietary Intake**

1. Poor economic status
2. Anorexia e.g. in pregnancy
3. Elderly individuals due to poor dentition

- **Decreased Absorption**

1. Partial or total gastrectomy
2. Achlorhydria
3. Intestinal mal absorption such as in coeliac diasese

Megaloblastic Anaemia

Etiology

i) Vit.B12 Deficiency -

a.) Inadequate dietary intake : Strict vegetarian, breast feed infants .

b.) Mal absorption : Pernicious anaemia (gastric mucosa atrophy- decrease secretion of intrinsic factor), gastrectomy, congenital lack of intrinsic factor, tropical spur, ilial resection, crohns disesase.

ii) Folate Deficiency

a.) Inadequate dietary intake : In alcohalics , teenagers, Infants , old age, poverty .

b) Mal absorption

c) Excess demand: -

1. Physiologica : Pregnancy, lactation, infancy.
2. Pathological: Malignancy, increased haematopoiesis, T.B , R.A.

d) Excess urinary folate loss :- e.g. in active liver disease , congestive heart failure .

iii) Other Causes: Impaired metabolism e.g. inhibitors of dihydrofolate reductase such as methotrexate (anti cancer) and pyrimethamine(anti malarial) , alcohal , congenital enzyme deficiency.

Pathology: Vit.B12 & Folate deficiency :- It plays imp. role in general cell metabolism & DNA synthesis

Thalassemia

Etiology

- Hereditary disorder
- Reduced rate of synthesis of one or more of the globin polypeptide chains of Hb.

In normal adult distribution of Hb :-

- HbA ($\alpha_2\beta_2$)= 95-98%
- HbA2 ($\alpha_2\delta_2$)= 1-3%
- HbF ($\alpha_2\gamma_2$)= less then 1%

Types & Pathogenesis

I. α thalassaemia

1. Hydrops fetalis (Hb 3-10 g/dl)
2. Hb-H disease (Hb 2-12 g/dl)
3. α thalassaemia (Hb 10-14 g/dl)
   - Deletion of 4 α genes
   - Deletion of 3 α genes
   - Deletion of 2 α genes

II.β thalassaemia

1. β thalassaemia major

(less than 5 g/dl)

2. β thalassaemia intermedia

(5-10 g/dl)

3. β thalassaemia minor

(10-12 g/dl)

- Complete absence of β chain synthesis (homozygous form)
- Incomplete supression of β chain synth. (Heterozygous form)
- Moderate supression of β chain synth. (Heterozygous form)

Aplastic Anaemia

It is defined as pancytopenia (simultaneous presence of anaemia, leucopenia and thrombocytopenia) resulting from aplasia of bone marrow.

Etiology

A. Primary aplastic anaemia

a. Congenital (fanconi's Anaemia)

b. Acquired (immunological)

B .Secondary aplastic anaemia :

1. Drugs e.g. anticancer, sulfa drugs, chlorpromazine
2. Toxic chemicals e.g. benzene, insecticides , arsenic
3. Infections e.g. hepatitis, EBV infection, AIDS

Hemolytic Anaemia

Definition: Anaemia resulting from an increase in the rate of red cell destruction.

- Normally red cells under goes lysis at the end of their life span of 90 -120 days with in the cells of reticulo - endothelial system in the spleen.
- The red cell life span is shortened in haemolytic anaemia.
- It occurs by two mechanism

  Firstly intravascular heamolysis: red cell under go lysis in the circulation and release their contents into plasma. In these cases plasma Hb rises substantially and part of it may be excreted in urine (heamoglobiuria)

  Secondly extravascular haemolysis: red cell are taken up by cells of the reticuloendothelial system where they are destroyed and digested , so in these cases plasma Hb level rarely raised.

ETIOLOGY

A. Hereditary (Intra Corpuscular)

1. Abnormalities of red cell membrane:-

   i.)Hereditary spherocytosis

   ii.)Hereditary elliptocytosis

   iii.)Hereditary stomatocytosis

2. Disorder of red cell interior:-

i.) Red cell enzyme defects –

a)Defect in the hexose monophosphate(HMP) - G6PD deficiency.

b)Defect in glycolytic pathway – Pyruvate kinase deficiency.

ii.) Disorders of Hb –

a)Structurally abnormal Hb – Sickle syndrome

b)Reduced globin chain synthesis- Thalassaemia

B. **Acquired (Extra Corpuscular):-**

i) Antibody (immuno haemolytic Anaemias {IHA}):-

a) AIHA(Auto IHA):-Warm &cold antibody AIHA

b)Drug induced IHA

c) Isoimmune HA

ii) Mechanical trauma:- Microangiopathic HA

iii) Direct toxic effects:- Malaria,bacterial infection

iv) Acquired red cell membrane abnormalities-PNH(paroxysmal noctural haemoglobinuria)

v) Spleenomegaly

Clinical Features of Anaemia

Symptoms

- Tiredness
- Easy fatiguability
- Generalised muscular weakness
- Lethargy
- Headache
- In old patients – cardiac failure, angina pectoris, intermittent claudication , confusion & visual disturbance may be present.

Signs

- Pallor - most common sign.
- Cardio vascular system – Hyperdynamic circulation with tachycardia , collapsing pulse , cardiomegaly , mid systolic murmur , dyspnoea on exertion , and in old pt. congestive heart failure.
- CNS - In old pt. attacks of faintness , giddiness , headache , tinnitus , drowsiness , numbness , and tingling sensation of hands and feets.
- Ocular manifestations- Retinal haemorrhage.
- Reproductive system- Menstrual disturbance , loss of libido.

Clinical Examination

- Color of skin
- Color of conjunctiva

- Color of sclera
- Color of nail bed
- Changes in retina
- Atrophy of the papillae of the tongue
- Rectal examination for evidence of bleeding
- Presence of hepatomegaly , splenomegaly , lymphadenopathy,Bony tenderness

Investigations

- Blood Hb estimation

In adults: < 13.0 g/dl

In women: < 11.5 g/dl

In new born: < 15.0 g/dl

In pregnant women: < 10.5 g/dl

- Peripheral blood film exa. :- Abnormal erythroid series cells are looked.

i) variation in size of red cell (anisocytosis): Macrocyte- megaloblastic anemia , aplastic anaemia

Microcyte: iron deficiency anaemia , thalassaemia

ii) Variation in shape (poikilocytosis)

- Red cell indices : MCV (mean corpuscular volume)
  MCH(mean corpuscular Hb)
  MCHC(mean corpuscular Hb conc.)

In iron deficiency anaemia & thalassaemia -

MCV decreased

MCH decreased

MCHC decreased

- In megaloblastic anaemia – MCV raised

- haemolytic anaemia – MCV ,MCH , MCHC all are normal.

- Leucocyte & platelate count – decreased in pancytopanic anaemia.
- Reticulocyte count – normal range 0.5 – 2.5 %
- ESR
- Bone marrow examination.

Differential diagnosis

- Acquired aplastic anemia
- Constitutional aplastic anemia (Fanconi's anemia, dyskeratosis congenital) .
- Differential diagnosis of a hypochromic microcytic anemia - Iron deficiency, inflammation ,thalassemia, sideroblastic anemia.
- Some myelodysplasia

- Rare aleukemic leukemia
- Some acute lymphoid leukemia
- Some lymphomas of bone marrow

Management

- Prevention - Give iron , vit.B12 and folic acid supplementation prophylactically to high risk individuals like adolescents , pregnant women , lactating mother , old age .

-Diet modification green leafy vegetables , jiggery , pomegranate etc.[2]

Reportorial View

In BBCR Repertory-

- VERTIGO , AGGRAVATION , Anaemia,in: carb-v., *chin*., crot-h., *cyc*.,eucal., *fer*., kali-c., led., pho., senec.
- HEAD-INTERNAL , AGG., Anaemia, from: ars., *calc-c.,cal-p., chin.*, cyc., *fer*., kali-c., *lac-d., nat-m*., pho-ac.
- CORYZA , CONCOMITANTS , Anaemia: bry., chin., fer., hyds., kali-c., pul.
- FACE , Anaemic appearance: Chin., Fer., Hell., Pho., Sec-c., Sul.
- FEVER , CIRCULATION , Anaemia: Aco., Ant-t., *arn*., ARS., bell., BRY., CAL-C., Cal-p., *carb-v., cham*., Chin., *cina*., Cocl., *colo*., Con., Cup., *dig*., FER., Grap., *hell*., *ign*., Kali-c., *lac-def*., Lyc., *mere*., MOS., *nat-c*., NAT-M.,Nit-ac., NUX-m., Pho., *pho-ac*., PLAT., *plb*., PUL., Rhus-t., *sabi*., SCIL., *sil*., STAP., SUL., *val*.
- FEVER , CIRCULATION , PALPITATION , Anaemia in: *fer., kali-c., nat-m., pul.*,[3]

In BTPB Repertory –

- SENSATIONS – Chlorsis (Anaemia)- Ac. ac., *Ars*., BELL., CALC. C., Chin., COCC., Con., *Dig*., FER., *Graph*., Hell., K. carb., LYC., *Merc*., Nat. m., NIT. AC., Nux v., Phos., PLAT., Pb., PULS., Sep., Spig., *Staph*., SUL., *Valer*.[4]

In KENT Repertory

- HEAD , ANAEMIA of the brain: *Alum., calc., calc-p., calc-s., chin., dulc.*, Ferr., *hell., kali-c., lyc., mag-c., nat-m., nit-ac., nux-v.*, Ph-ac., Phos., *selen., sep., sil., stry., zinc.*
- EYE , ANAEMIA of Conjuctiva: Dig., plb.
- Retina: agar., chin., dig., lith.
- FACE , DISCOLORATION, pale: Anac., Ant-t., Arg-m., Ars, Berb., Calc. Calc-p., Camph., Carb-s., Carb-v., Chin., Chin-s., Cina., Clem., Cupr., Dig., Ferr., Ferr-i., Ferr-p., Graph., Lob., Lyc., Mang., Med., Nat-a., Nat-c., Nat-m., Nat-p., Op., PH-ac., Plb., Sec., Sep., Sulph., Tab., Tub., Vert., Zinc.
- URETHRA , DISCHARGE , white , chronic , anaemic subjects in: Calc-p.
- GENERALITIES , ANAEMIA: Ars., Br., Calc., Calc-p., Chin., Ferr., Ferr-ar., Graph., Hell., Kali-ar., Kali-c., Kali-p., Mang., Mrd., Merc., Nat-m., Nit-ac., Phos., Plb.m , Puls., Squil., Staph., Sulph., Sul-ac.
- haemorrhage , after: Chin., Ferr.[5]

In MURPHY Repertory

- Brain - MEDULLA problems - paralytic affection with general anaemia and venous stasis - *Lach.*
- Pulse - LOW, pulse - brain, in anaemia of -kali-br.[6]

In PATHAK Repertory

- A – Anaemia -ARS. CALC.*CHIN.*$_{ptk1}$ *FERR.,NAT-M.,,SULPH*[6].

Miasmatic View

- **Psora -** Nutritional anaemia – lack of iron , correction of diet corrects the anaemia.
- **Sycotic –** Megaloblastic anaemia – RBC inc. because they fail to mature.
- **Syphilitic –** Heamolytic anaemia – inc.rate of RBC destruction.

  Aplastic anaemia – aplasia of bone marrow.

Pernicious anaemia– atrophy of gastric mucosa caused by auto immune reaction.[7]

Therapeutic AIM

- To cure
- To correct cause
- To remove obstruction to recovery.

Homoeopathic Medicines

Arsenic Album: Great prostration and fainting with rapid sinking of the vital forces. Depressing, melancholy, despairing and indifferent disposition**.** Least exertion causes excessive exhaustion**.** When he moves he is surprised to find himself so weak exhaustion is not felt by the patient while lying. Skin are dry and scaly, cold, blue and wrinkled.[8]

Calcarea Phosphorica : It is suitable for persons who anaemic and dark complexioned, dark hair and eyes; thin spare subjects, instead of fat. Oozing of bloody fluid from navel of infants.[8]

Phosphorus: It is suitable to tall, slender persons, narrow chested, with thin and transparent skin. weakeness by loss of vital fluids, with great nervous debility, emaciation. Face is Pale, sickly complexion, blue rings under eyes. After every exertion feels weakness and trembling, Cannot hold anything with his hands. Menses too early and scanty but last too long, Slight hæmorrhage from uterus between periods.[8]

CHINA: Anemia,weakness. Worse from loss of vital fluids (loss of blood, nursing, diarrhea, menses)[9]

Ferrum Metallicum: Women have a fiery red face who are weak, delicate, chlorotic. Extreme paleness of the face, lips and mucous membranes which become red and flushed on the least pain, emotion or exertion. Blushing. Menses are too early, too profuse, too long lasting, with fiery red face, ringing in the ears; intermit two or three days and then return; flow pale, watery, debilitating. Women have haemorrhagic diathesis; blood bright red, coagulates easily (Fer. p., Ipec., Phos.).[8]

Natrium Muriaticum: It is suitable for the anaemic and cachectic, whether from loss of vital fluids (profuse menses, seminal losses) or mental affections.bGreat emaciation and losing flesh while living well.[9]

Aletris Farinosa: This remedy is mainly used in Anaemic and relaxed condition, especially of the female organism. The Female is felt tired all the time and suffers from prolapsus of uterus, leucorrhœa and rectal distress. Chlorotic girls and pregnant women.[8]

Phosphoric Acid: "Debility" is very marked in this remedy. Face is Pale and earthy. Menses too early and profuse with pain in liver. Great debility, Cramps in upper arms and wrists. Pains at night in bones.[8]

Other medicines- Helleborus niger, Kali-ar., Kali-carb., Kali-p., Merc., Nit-ac., Plb.m , Puls., Squil., Staph., Sulph., Sul-ac.

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