

INTRODUCTORY SESSION

The General Causes of Disease

1. Genetic Disorders:-

- (a) Sex chromosome abnormalities, e.g. XXY - Klinefelter's Syndrome.  
XO - Turner's Syndrome.
- (b) Autosomal abnormalities, e.g. Down's Syndrome (Mongolism)  
Haemophilia

2. Congenital Disorders:

- (a) Maternal infections, e.g. rubella.
- (b) Blood-group incompatibilities, e.g. haemolytic disease of the newborn.
- (c) Cause unknown, e.g. spina bifida,  
hydrocephalus,  
congenital dislocation of the hips.
- (d) Birth trauma.
- (e) Maternal ingestion of drugs during pregnancy, e.g. thalidomide.

3. Physical and chemical agents:-

- (a) Drugs, e.g. Opren (benoxaprofen).
- (b) Alcohol.
- (c) Cigarettes.
- (d) Glue-sniffing.
- (e) Effects of heat and cold :- (i) heatstroke; (ii) hypothermia.
- (f) Electricity.
- (g) Radiation.
- (h) Trauma.
- (i) Pollution.
- (j) Heavy metals.

4. The causes, known and unknown, of cancer:-

- e.g. cigarette smoking = carcinoma of the bronchus.
- low residue diet = carcinoma of the colon.

5. Living Organisms:

- (a) Bacteria, e.g. the  $\beta$ -haemolytic streptococcus
- (b) Viruses, e.g. herpes zoster.
- (c) Fungi, e.g. candida albicans.
- (d) Parasites (protozoa and helminths), e.g. threadworms.

6. Disorders of the immune system, e.g. treatment with cytotoxic agents.

7. Deficiency diseases:

- (a) Malnutrition, e.g. beri-beri.
- (b) Auto-immune diseases, e.g. pernicious anaemia.
- (c) Vitamin deficiency.
- (d) Hormonal deficiency, e.g. myxoedema, diabetes mellitus.

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A Format for describing Disease-Entities:

- 1. The incidence of the disorder (the number /1000 NHS patients/year), or /100,000, or /1,000,000, if applicable.
- 2. The typical age-range of the disorder.
- 3. Sex incidence (is it more prevalent in males or females?).
- 4. The appearance in pathological specimens (if applicable):
  - (a) Microscopic
  - (b) Macroscopic.
- 5. The aetiology (the chain of causes).
- 6. The bodily sites which are affected by the disorder.
- 7. The clinical pointers which lead to the diagnosis (observation and recognition of symptoms and signs).
- 8. Diagnostic difficulties.
- 9. Investigations.
- 10. Duration and prognosis.
- 11. Complications.
- 12. Misleading features and pitfalls.
- 13. Differential diagnosis.
- 14. Treatment.

A Specimen Format

Disorder; Iron deficiency anaemia.

1. Incidence: 11/30/1000 NHS patients per year appear as new cases.
2. Age-Range: 15 years to 55 years. 75 years +
3. Sex incidence: (1) Women of child-bearing age liable.  
(2) The elderly.
4. Appearance of pathological specimens:

The blood film shows normochromic, normocytic anaemia if the deficiency is acute; microcytic, hypochromic anaemia if the deficiency is chronic.

5. Aetiology:
  - (a) Blood Loss -
    - (i) menorrhagia
    - (ii) child-birth
    - (iii) repeated epistaxis
    - (iv) dental extractions
    - (v) peptic ulcer
    - (vi) piles
    - (vii) cancer of the gut or lung
    - (viii) accidents
    - (ix) operative procedures.
  - (b) Deficient iron absorption.
  - (c) Iron-deficient Diet.
  - (d) Deficient blood formation as in chronic infections.
  - (e) Myxoedema.
  - (f) Rheumatoid Arthritis.

6. Bodily sites affected:

The bone-marrow, and red cells.

7. Clinical pointers:

- (a) insidious onset
- (b) pallor of skin and mucous membranes
- (c) slight yellowness of skin
- (d) shortness of breath and palpitations
- (e) aggravation of associated disorders;  
e.g. angina, backache, dizziness.
- (f) conditions associated with blood loss,  
e.g. menorrhagia.
- (g) dysplagia
- (h) sore tongue, spoon shaped nails.

8. Diagnostic difficulties:
  - (a) may be symptomless
  - (b) pallor may be obscured by make-up
  - (c) clinical assessment of the degree of anaemia is inaccurate.
  
9. Investigations:
  - (a) Haemoglobin estimation with full blood coun .  
Further investigation if Hb.  $\angle$  11 grms.
  
10. Duration: Indefinite unless treated.  
  
Prognosis: Depends on underlying cause.
  
11. Complications:
  - (a) chronic anaemia leads to lassitude and general feelings of ill-health.
  - (b) complications due to underlying conditions.
  - (c) heart failure in severe anaemia.
  
12. Misleading features and pitfalls:
  - (a) failure to detect it as a cause of ill-health
  - (b) over-investigation
  - (c) cosmetics
  - (d) the elderly - malnutrition easily missed
  - (e) clinical assessment unsatisfactory - must be assessed by laboratory tests.
  
13. Differential Diagnosis:  
  
Other causes of hypochromic anaemia.
  
14. Treatment: Replacement by iron, after investigations are complete.