



Anaemia

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Motec Life-UK

ANAEMIA

- ▶ Robert Walsh
- ▶ Alex Teo
- ▶ Delivered in Ghana
- ▶ June 2011



Anaemia – Overview

- ▶ Definition
- ▶ Symptoms and signs
- ▶ Classification
 - ▶ Microcytic
 - ▶ Normocytic
 - ▶ Macrocytic
- ▶ Treatment



Anaemia – Definition

- ▶ **What is haemoglobin?**
 - ▶ Oxygen carrying molecule in red blood cells
- ▶ **What are the normal haemoglobin (Hb) levels?**
 - ▶ 13.5 – 18 g/dl in men
 - ▶ 11.5 – 16 g/dl in women
- ▶ **Anaemia can thus be due to:**
 - ▶ ↓ Red blood cells (↑ loss/destruction or ↓ production)
 - ▶ ↑ Plasma volume
 - ▶ ↓ Production of Hb



No. 87

Date

15/06/2011
13:32

Time

Mode WB

SICA

WBC

$7.4 \times 10^3 / \mu\text{L}$

RBC

$3.75 \times 10^6 / \mu\text{L}$

HGB

8.1g/dL

HCT

26.8%

MCV

- 71.5fL

MCH

- 21.6Pg

MCHC

- 30.2g/dL

PLT

+ $640 \times 10^3 / \mu\text{L}$

LYM%

25.4%

20/



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Anaemia – Symptoms and signs

- ▶ Symptoms of anaemia itself:
 - ▶ Tiredness/fatigue
 - ▶ Shortness of breath
 - ▶ Feeling faint
 - ▶ Palpitations
 - ▶ Headache
 - ▶ Pallor
 - ▶ Tachycardia
- ▶ Symptoms of the underlying cause



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Anaemia – Classification

- ▶ Based on mean corpuscular volume (MCV)
 - ▶ <76 fL – Microcytic anaemia
 - ▶ 76-96 fL – Normocytic anaemia
 - ▶ >96 fL – Macrocytic anaemia
- ▶ Defines size of RBCs
- ▶ Different causes and treatment for each



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26.8%
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- 21.8 pg
- 30.2 g/dL
+ $640 \times 10^3 / \mu\text{L}$

20/

LYM%

25.4%

Anaemia – Microcytic

- ▶ **MCV <76 fL**
- ▶ Iron deficiency (most common cause)
 - ▶ Chronic blood loss (eg. menstruation, GI parasites)
 - ▶ Increased demand (eg. pregnancy)
 - ▶ Insufficient intake (especially in children)
 - ▶ Impaired absorption
 - ▶ Signs/symptoms: Koilonychia, angular stomatitis, glossitis



Anaemia – Koilonychia



**‘Spoon-shaped’
nails**



Anaemia – Microcytic

- ▶ **MCV <76 fL**
- ▶ Other causes:
 - ▶ Chronic disease
 - ▶ Thalassaemia
 - ▶ Sideroblastic anaemia



Anaemia – Normocytic

- ▶ **MCV 76-96 fL**
- ▶ Common causes:
 - ▶ Acute blood loss
 - ▶ Haemolysis (eg. in malaria)
 - ▶ Chronic renal failure



Anaemia – Macrocytic

- ▶ **MCV >96 fL**
- ▶ B12/folate deficiency (most common cause)
 - ▶ Insufficient intake
 - ▶ Impaired absorption
 - ▶ Increased demand (eg. in pregnancy)
 - ▶ Signs/symptoms: Angular stomatitis, neurological dysfunction
- ▶ Many other causes including alcohol



Anaemia – Treatment

- ▶ Treat underlying cause
- ▶ In severe cases → blood transfusion



Questions?



Thank You

