ISSUE
40
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2023

QSP Monthly

NEWSLETTER OF THE QUALITY SLIDE PROGRAM

HORIBA Medical

This issue

Slide 1
Anaemia. Leukocytosis. Abnormal lymphocytes flag on the analyser. Anisoctyosis(++). Dacryocytes(++). Echinocyte(++). Presence of a medium to large sized lymphoid population, with fine chromatin, often irregular nuclei (sometimes nucleoli), and moderately abundant cytoplasm. Some nuclear shadows. Lymphocytes with a lymphomatous aspect (of the marginal lymphoma type?).

Slide 2
Clinical haematology service. Hyperlymphocytosis. Monomorphic hyperlymphocytosis associated with some smudge. Chronic Lymphoid Leukaemia/ Non-Hodgkin's Lymphoma?

Slide 3
See slide review.

Slide 4
Haematology emergency department. Hyperleukocytosis. Anaemia. Thrombocytopenia. Lymphopenia. Myelemia. Thrombocytopenia. Aniso-poikilocytosis(++). Elliptocytes/ dacryocytes/echinocytes(++). Presence of red blood cell fragments.

Slide 5
No clinical context. Nothing to report.

Slide 6
Anaemia. Macrocytic anisocytosis(++) Dacrocytes Thrombocytopenia. Neutrophilia. Hypogranulated (++) neutrophils. Myelemia + discrete blastosis. Monocytosis. Context: Myelodysplasia in evolution? Expert Comments: Myelodysplasia /myeloproliferative syndrome (CMML?)

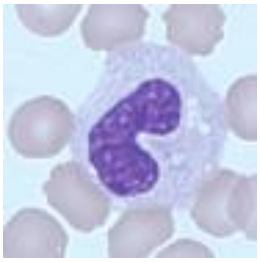
Monthly Digital Case Study Presentation
September 2023, Slide 3

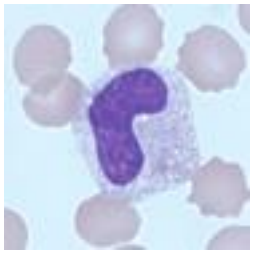
FBC Results

WBC 30.53* (10^3/mm3)
RBC 3.95 (10^6/mm3)
HGB 12.2 (g/dL)
HCT 35.7 (%)
MCV 90 (fL)
MCH 30.8 (pg)
MCHC 34.1 (g/dL)
PLT 226* (10^3/mm3)
Neutrophils 90 %
Lymphocytes **0.0** %
Monocytes 6.6%
Eosinophils **0.0** %
Basophils 0.0%
Metamyelocytes 3.3%

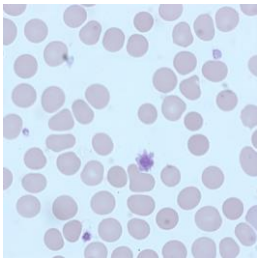
Clinical Details

Female (68 years old)

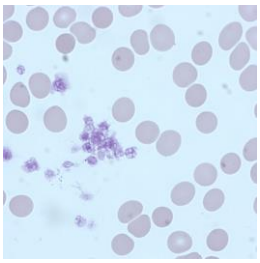




Neutrophil Band Cells



Macroplatelet



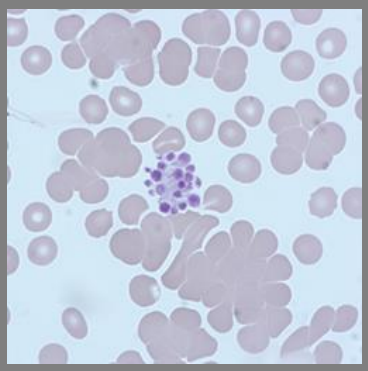
Platelet clumping

Slide Information

Intensive care unit. Flag on the platelet result on analyser. Lymphopenia. Partially degranulated granular lineage (+). Lymphopenia. Neutrophilia. Neutrophils rather hyposegmented (++), with presence of "band cells"/metamyelocytes. Presence of macroplatelets and some platelet aggregates.
Expert Comments: Myelodysplasia/myeloproliferative syndrome?

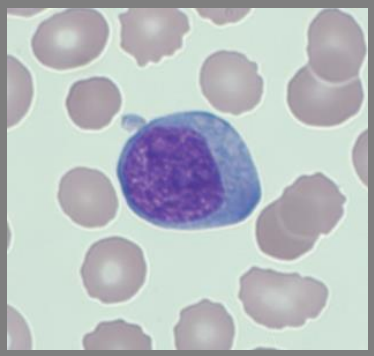
Cell Quiz

What two morphology features can be seen in the slide below?



Last month's quiz:

Can you name the cell below?

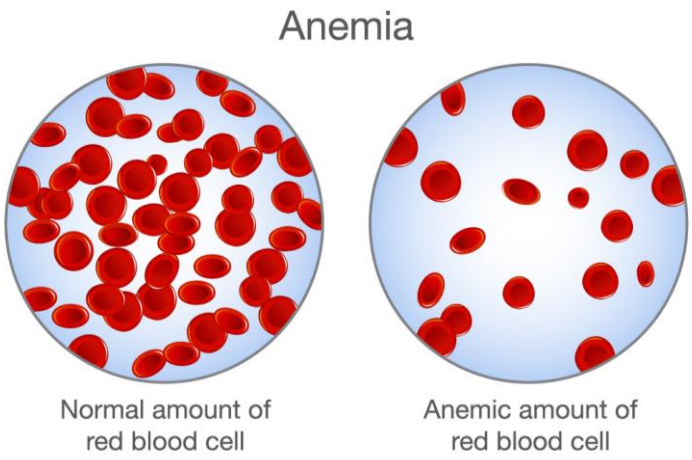


Right answer:

The cell is a plasma cell.
A plasma cell is a fully differentiated, mature lymphocyte of the B-cell lineage, which produces and secretes antibodies.

Anaemia

Anaemia is a condition in which the blood is not carrying sufficient healthy red cells in its circulation, and therefore reduced amounts of haemoglobin carrying oxygen around the body. Anaemia maybe defined as a reduced absolute number of circulating red cells, reduced haemoglobin, reduced haematocrit.



Symptoms of anaemia can develop slowly, with symptoms being vague and non-specific. Symptoms that may occur first include:

- Feeling weak or tired more often than usual, or with exercise
- Headaches
- Problems concentrating or thinking
- Irritability
- Loss of appetite
- Numbness and tingling of hands and feet

When Anaemia is acute, symptoms can include feeling faint and increased thirst. Symptoms of anaemia depend on how rapidly the haemoglobin drops and vary depending on the underlying cause. These are usually blood loss, decreased red blood cell production, and/or increased red blood cell breakdown.

The Full Blood Count - first step to diagnosing an anaemia:

- Reduced Hb
- Reduced MCV

In clinical workup, the MCV will be one of the first pieces of information available:
Microcytic anaemia – MCV < 80fL
Normocytic anaemia – MCV 80-100fL
Macrocytic anaemia – MCV >100fL

Limitations of MCV include cases where the underlying cause may be due to several factors, such as iron deficiency (a cause of microcytosis) and vitamin B12 deficiency (a cause of macrocytosis) where the net result can be normocytic cells.

In the morphological approach, anaemia is classified by the size of red blood cells; this is either done automatically or on microscopic examination of a peripheral blood smear.

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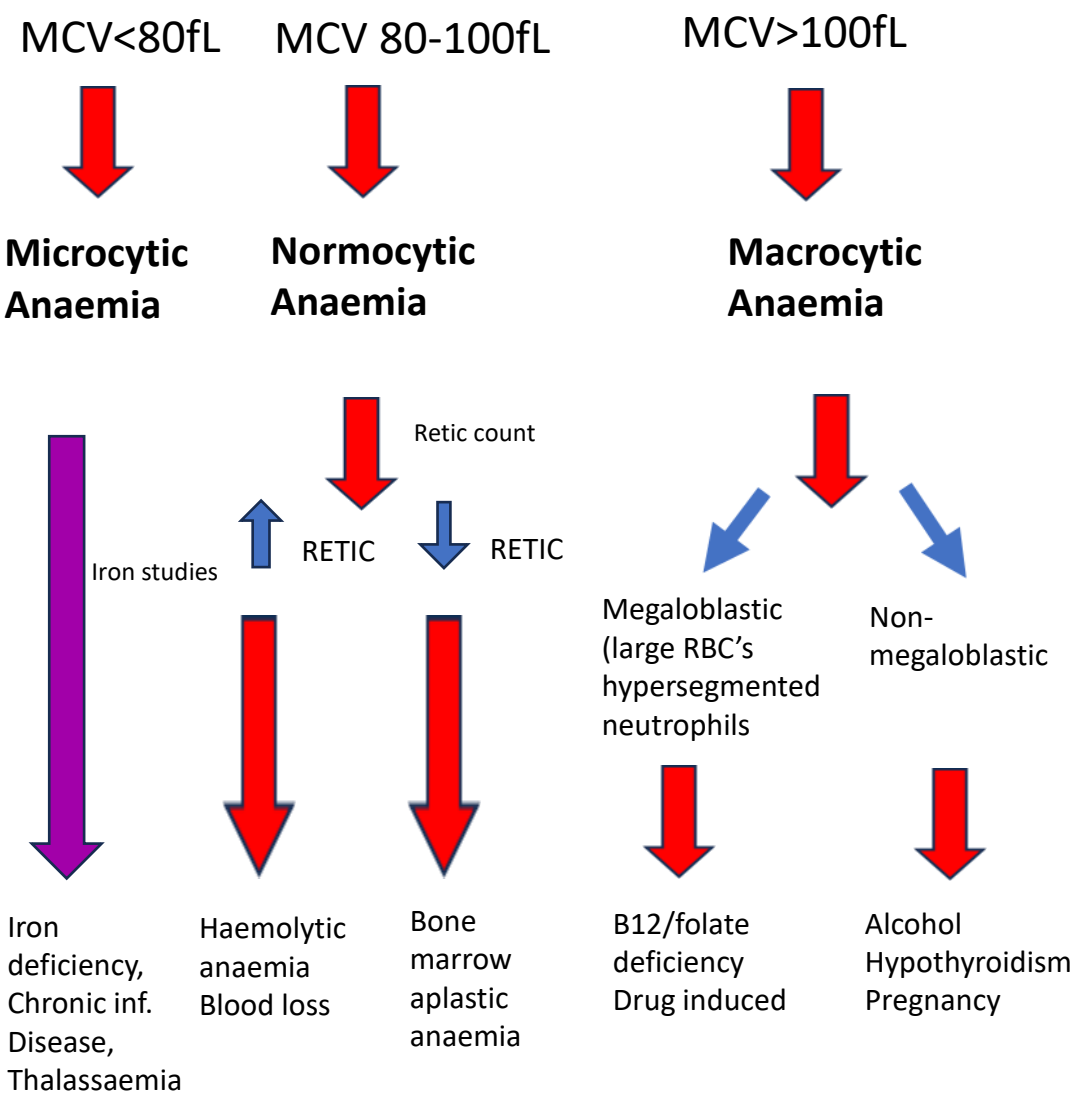

The causes of anaemia may be classified as impaired red blood cell (RBC) production, increased RBC destruction (haemolytic anaemia), blood loss and fluid overload (hypervolemia). Some of these may interplay to cause anaemia. The most common cause of anaemia is blood loss, but this usually does not cause any lasting symptoms, unless a relatively impaired RBC production develops, in turn, most commonly by iron deficiency. See following newsletters for more on specific anaemias.

HORIBA Yumizen haematology analysers win the 2023 Medical Device Network Excellence Awards

We are proud to announce that our Yumizen haematology analysers have won the 2023 Medical Device Network Excellence Award in the category for Environmental, Innovation, and Product Launches. A recently updated compact instrument range, comprising the Yumizen H500 (open and closed tube sampling options) and the Yumizen H550 (autoloading) is a winner in the Innovation and the Product launch categories. The analysers are suited to a wide range of environments from small labs to clinics and blood banks. Read more.

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Available as a single use license and a site license which allows up to 50 concurrent users.
To find out more, contact us.

Bibliography

https://askhematologist.com/category/anemias/

https://www.who.int/health-topics/anaemia#tab=tab_1

Essential Haematology
Hoffbrand & Pettit

Editorial Team

Kelly Duffy
Andrew Fisher

About us

HORIBA UK Limited
Kyoto Close
Moulton Park
Northampton, UK
NN3 6FL

HORIBA Medical
Parc Euromédecine, 390
Rue du Caducée, 34790,
France

www.horiba.com/medical

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