

## Last Month's Slides

### February 2021 Slide Summaries

#### Slide 1

Relapse of diffuse large B-cells lymphoma. Expert comment: Leukaemia phase of high-grade non-Hodgkin's lymphoma.

#### Slide 2

Exploration of hyperlymphocytosis. Monomorphic hyperlymphocytosis with the presence of numerous "smudge": probable CLL.

#### Slide 3

Nothing abnormal to report.

#### Slide 4

Nothing abnormal to report.

#### Slide 5

Nothing abnormal to report.

#### Slide 6

Nothing abnormal to report.



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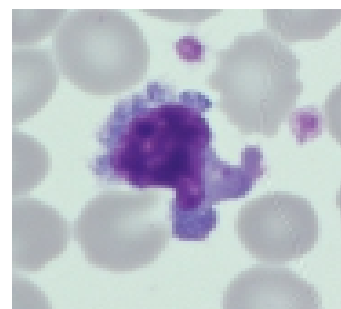
## Monthly Digital Case study Slide 2

### Presentation

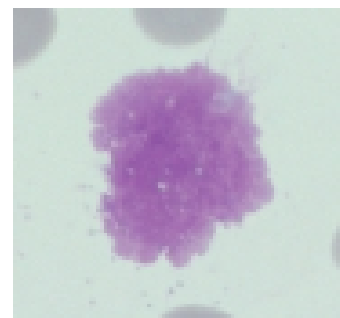
2021 Male (72 years old)

### FBC Results

WBC	42.3(10 <sup>3</sup> /mm <sup>3</sup> )	Neutrophils	11.2 %
RBC	4.84 (10 <sup>6</sup> /mm <sup>3</sup> )	Lymphocytes	85.4 %
HGB	144 (g/L)	Monocytes	3.4 %
HCT	43.3 (%)	Eosinophils	0 %
MCV	90(fl)	Basophils	0 %
MCH	28.9 (pg)		
MCHC	32.3 (g/dL)		
PLT	253 (10 <sup>3</sup> /mm <sup>3</sup> )		



Lymphocyte



Nuclei Shadow

### Slide review

Exploration of hyperlymphocytosis. Monomorphic hyperlymphocytosis with the presence of numerous "smudge": Some platelet aggregates. Probable CLL. To be compared with the immunophenotyping results of circulating lymphocyte (Matutes scoring).

### Diagnosis

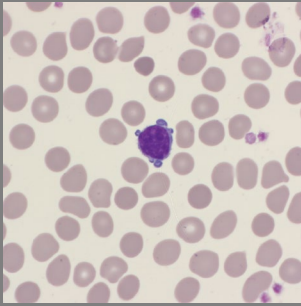
Probable CLL.

# Monthly Morphology

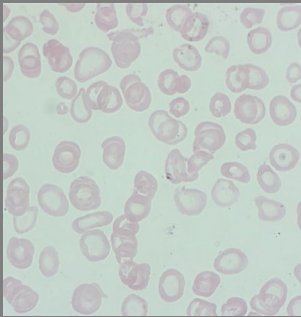
## Quiz:

A female patient has the following parameters Hb 72 (g/L), MCV 57 (fl), MCH 14.5(pg), Platelets 219 (10<sup>3</sup>/mm<sup>3</sup>)

Which of the slides below would represent these results, A or B ?



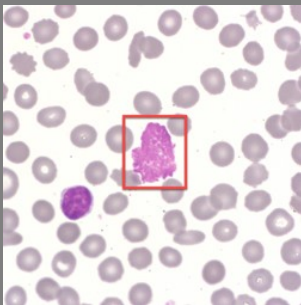
Slide A



Slide B

## Last month's Quiz:

What is the name for the cell in the red box and what condition may you see them in?



The cells highlighted are known as smear cells, smudge cells or basket cells and are commonly found in Chronic Lymphocytic Leukaemia (CLL).

# Case Study

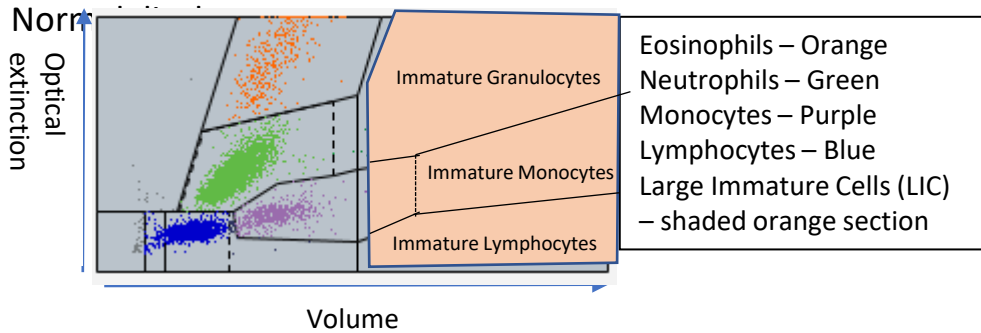
Slide 5 August 2020

## Basophilia with increase in myeloid precursors

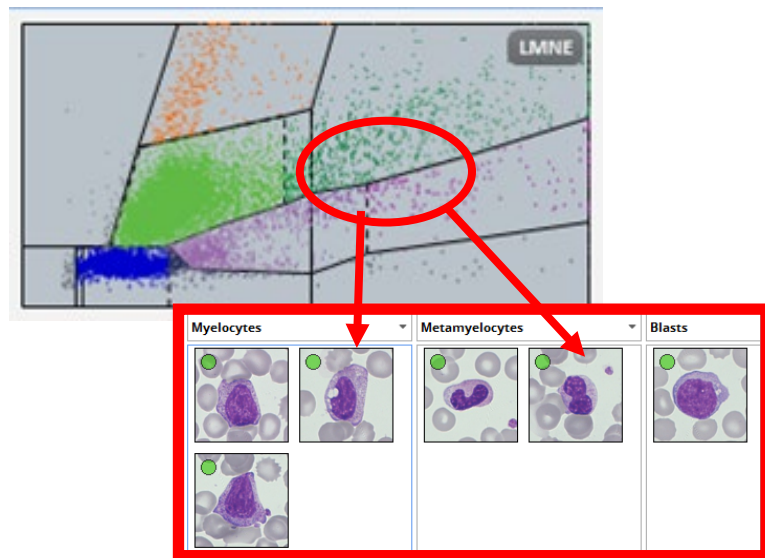
The HORIBA Yumizen H1500/H2500 analysers utilise 3 different chambers/channels to enumerate White Cells: 1) LMNE channel, 2) Baso/TNC2 Channel, and 3) TNC/HGB Channel. We will explain the changes seen two channels on the graphical displays on the HORIBA Yumizen H1500/H2500 series of analysers in the above patient.

### LMNE Channel

Simultaneous measurement of volume and optical extinction occurs in the dedicated LMNE flowcell. The optical extinction is related to the complexity of the cell in terms of nuclear structure and degree of cytoplasmic granulation. The reagent Nucedif is used to lyse the red cells and stabilise the white cells.



LMNE display from patient Slide 5 August 2020 including cell images:

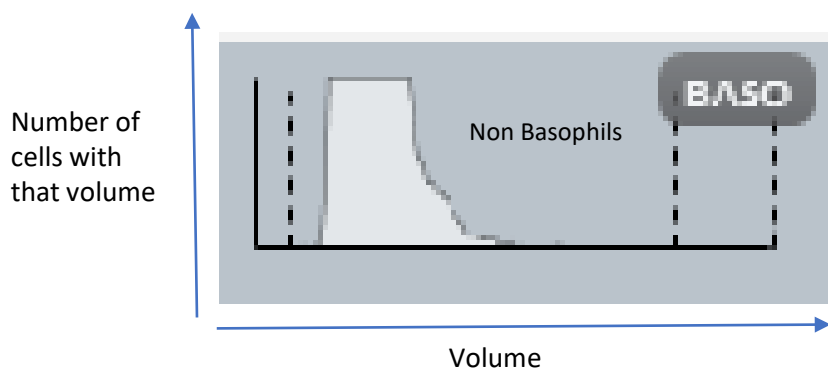


Flags would be generated indicating an increase in LIC (6.1% ,normal < 3.5%) and an excess of cells in the Right Neutrophil and Right Monocyte area which would indicate the possible presence of immature myeloid cells.

The difference between a normal LMNE plot and an abnormal plot LMNE is easily identifiable, and the user can perform further tests e.g., blood film.

## Basophil channel

The Basophil channel works on the principle that non basophil white cells when they are incubated with the reagent Basolyse are stripped of their cytoplasm whilst Basophils retain the cytoplasm and therefore can be separated based on size. The resulting dilution is then analysed using aperture impedance and a cell size distribution curve is generated.



Basophil Channel from patient slide 5 August 2020:



An abnormal looking Basophil plot is a good indicator of the presence of abnormal cells which needs further investigation.

## This Month's Top Morphology Tip

### How to read a blood smear

When looking at a blood film, it is important to be methodical. It is a good idea to begin with red cells, then platelets and finally white cells. This way you will not miss any important features from each cell type.

Whichever order you decide to look at each cell type, it is important to examine films routinely in this order, this ensures a thorough, accurate morphology examination every time.

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## Bibliography

Blood Cells A practical guide – Barbara Bain

Case Study from HORIBA Medical

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