



# HemeInsights

Issue 6 | February 2026

## Morphology Case Study

### Patient Details

A 52-year-old male suffering from endomyocardial fibrosis and valvular disorders.

#### Automated CBC

WBC	14.8* x 10 <sup>9</sup> /L	MCV	94.0 fL
RBC	3.4 x 10 <sup>12</sup> /L	MCH	29.7 pg
HGB	101 g/L	MCHC	316 g/L
HCT	0.318 L/L	PLT	230 x 10 <sup>6</sup> /L

On manual inspection, a marked eosinophilia was noted, with an absolute eosinophil count of 6.7 × 10<sup>9</sup>/L. Occasional acanthocytes, schistocytes, and large platelets were seen.

### Tentative Diagnosis

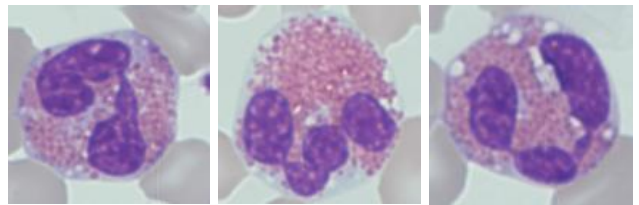
Myeloproliferative disorder / chronic eosinophilic leukemia?

### Expert Note

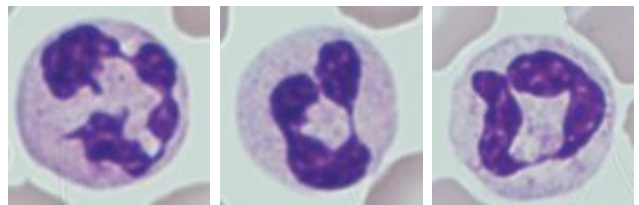
Abnormal neutrophils, to confront to the myelogram and cytogenetic assessment in progress (with research fusion genes BCR-ABL1, FIP1L1-PDGFR, PDGFRAB and FGFR3)

### Example of Cells

#### Eosinophils



#### Neutrophils (hypogranular)



Endomyocardial fibrosis is associated with prolonged eosinophilia. Eosinophils infiltrate the subendocardium, releasing toxic proteins which destroy myocardial tissue and cause inflammation.

Eosinophilia can either be caused by a secondary reaction (allergic disorders, drugs, parasitic infection rheumatological disorders), be a primary (clonal) disorder (hematological neoplasm with clonal eosinophilia) or idiopathic (no detectable primary or secondary causes for eosinophilia).

The majority of clonal eosinophilia can be classified as myeloid/lymphoid neoplasms with eosinophilia and

rearrangement of PDGFRA, PDGFRB, or FGFR1 or with PCM1-JAK2 (MLN-TK) and the myeloproliferative neoplasm subtype, "chronic eosinophilic leukemia, not otherwise specified" (CEL, NOS). An eosinophilia in BCR-ABL positive chronic myeloid leukemia may be an indicator of disease acceleration or blast transformation.

The PDGFRA or PDGFRB rearrangement is indicative of a heightened response to the tyrosine inhibitor imatinib.

## Yumizen H500 CRP – Key Features Summary



The CE IVDR–certified Yumizen H500 CRP is a compact benchtop hematology analyzer designed for small laboratories and hospital settings, delivering a simultaneous complete blood count (CBC), 5-part extended leukocyte differential and rapid CRP measurement from a single whole blood sample.

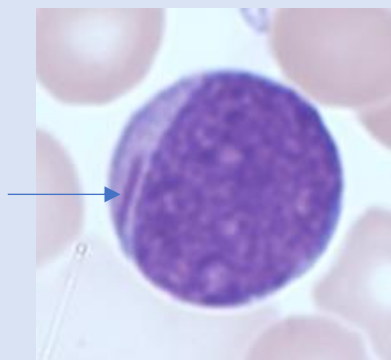
Using just 27  $\mu\text{L}$  of **venous or capillary blood**, it provides fast, clinically relevant results, making it ideal for rapid patient triage, including pediatric applications.

**Powered by HORIBA's patented i-DoubleDiff™ technology**, the analyzer **offers 38 parameters, including detailed insight into immature white blood cell populations** (IML, IMM, IMG) and atypical lymphocytes (ALY), alongside infectious screening flags for Malaria and Dengue. The combined WBC differentiation and CRP testing support enhanced detection and monitoring of infection, inflammation, hematological disorders and treatment response, helping clinicians distinguish between bacterial and viral infections and optimize antimicrobial use.

The Yumizen H500 CRP features a user-friendly touchscreen interface, robust design, and bidirectional connectivity (ASTM/HL7) for seamless laboratory integration. Comprehensive QC management, internal QC indicators, overlapping QC and repeatability testing, and Yumicare remote assistance ensure reliable performance and efficient operation. Overall, the Yumizen H500 CRP delivers high clinical value, rapid turnaround times and cost-effective testing in a compact footprint.

The Yumizen H500 CRP is CE IVDR certified. Availability is subject to local registration and regulatory requirements.

### Quiz



The presence of Auer rods in blast cells is most strongly associated with which condition?

- a) Chronic lymphocytic leukemia
- b) Acute myeloid leukemia
- c) Iron deficiency anemia

Answers are revealed two weeks after launch—check your inbox, our socials, or the next issue.

## Last Issue's Quiz Answer

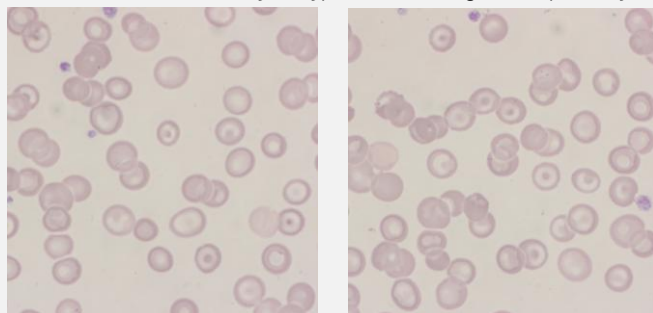
A female presents with the following results.

CBC			
WBC	5.62 (10 <sup>3</sup> /mm <sup>3</sup> )	MCV	59 (fL)
RBC	4.55 (10 <sup>6</sup> /mm <sup>3</sup> )	MCH	18.9 (pg)
HGB	8.6 (g/dL)	MCHC	32.2 (g/dL)
HCT	26.7 (%)	PLT	231 (10 <sup>3</sup> /mm <sup>3</sup> )

Which 2 additional tests should be performed?

- a) Iron status
- b) Hemoglobin analysis
- c) Haptoglobin
- d) Liver Function tests
- e) Clotting screen

The blood smear is Microcytic/Hypochromic, Target Cell, poikilocytosis.



**The Answer:**

**a) Iron status** and **b) Hemoglobin analysis**

The RBC parameters and blood smear are highly suspicious of the patient having Thalassemia; hemoglobin analysis will determine if alpha or beta thalassemia.

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### Bibliography

- World Health Organization-defined eosinophilic disorders: 2022 update on diagnosis, risk stratification, and management, William Shomali <sup>1</sup>, Jason Gotlib <sup>1</sup>, Am J Hematol.2022 Jan 1;97(1):129-148.
- Guideline for the investigation and management of eosinophilia, Nauman M. Butt, Jonathan Lambert et al, First published: 23 January 2017, <https://doi.org/10.1111/bjh.14488>

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