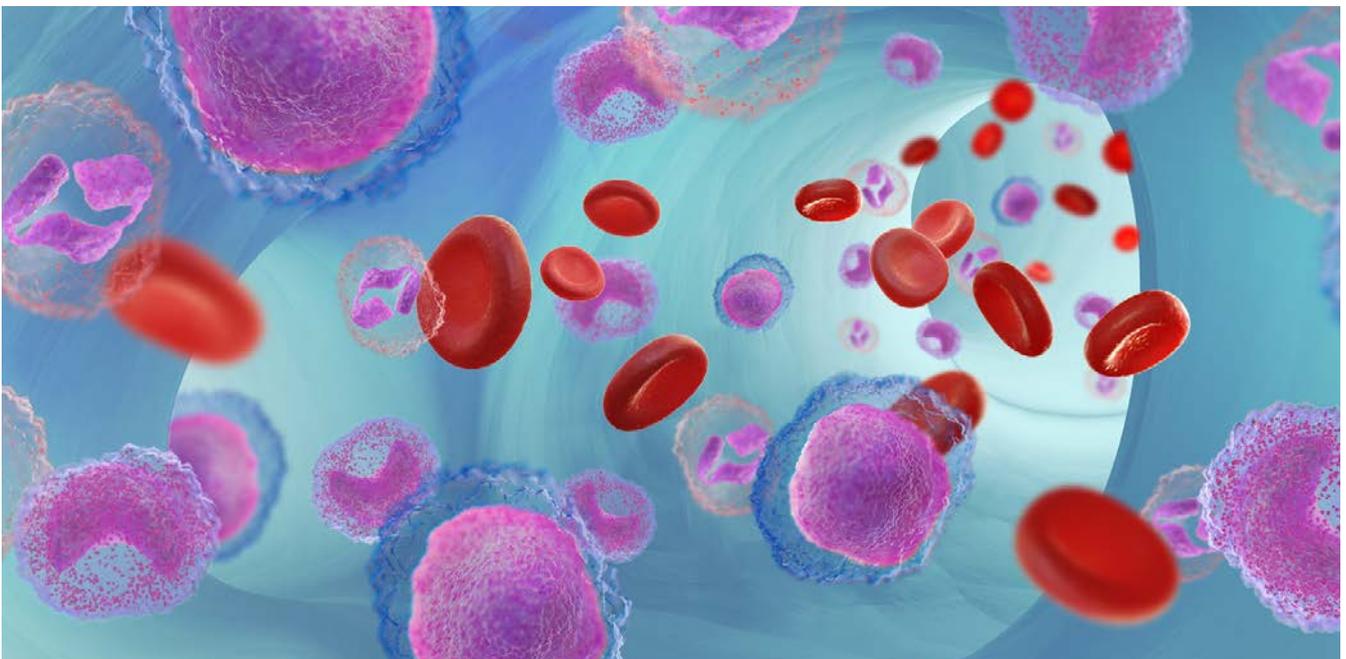


## CASE REPORT

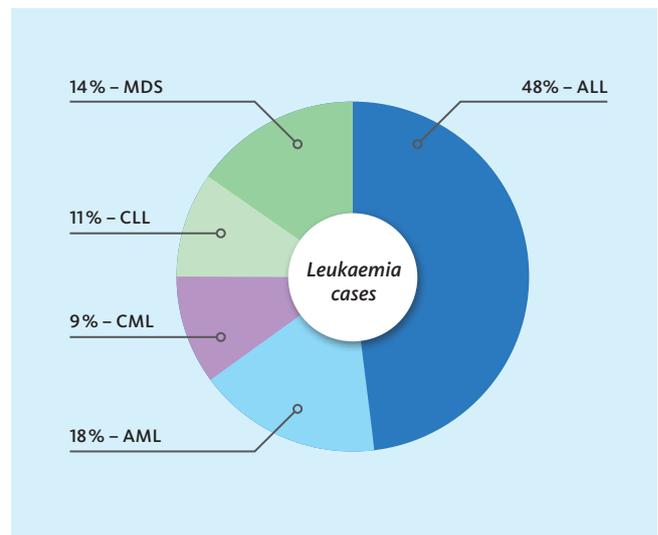
World Leukaemia Day 2021

### A patient case of chronic myeloid leukaemia (CML)



#### Leukaemia and chronic myeloid leukaemia (CML)

- CML causes an increased production of granulocytes and their precursor cells in the bone marrow. It is a common type of leukaemia making up around 9% of all leukaemia cases globally.
- CML typically begins in the chronic phase and progresses over time to an accelerated phase, finally leading to a blast crisis. The blast crisis is the terminal phase of CML and clinically behaves like an acute leukaemia.
- A bone marrow biopsy is often performed as part of the diagnostic path towards CML.
- Drug treatment will usually stop CML progression if started early. However, if the patient is not treated in a timely manner, CML quickly leads to lethality.



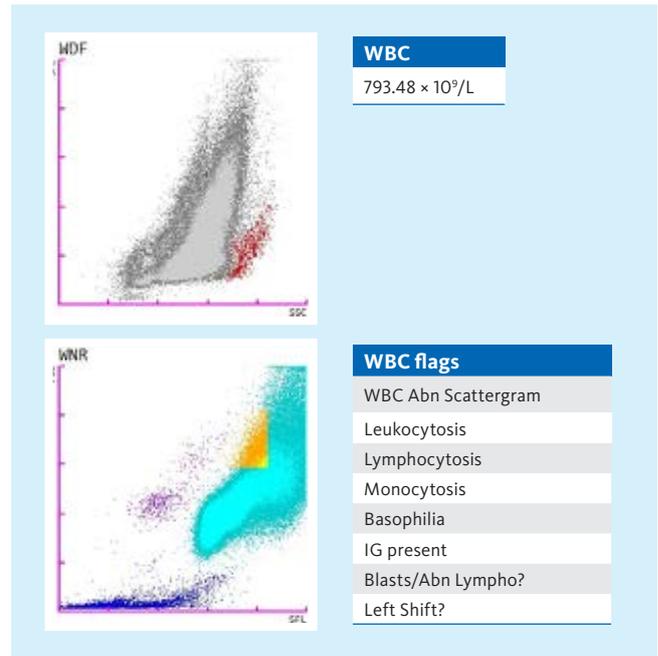
**Percentage of leukaemia cases by type**

Myelodysplastic syndromes (MDS), acute lymphocytic leukemia (ALL), chronic lymphocytic leukemia (CLL), chronic myeloid leukemia (CML), acute myeloid leukemia (AML)

## Clinical case information

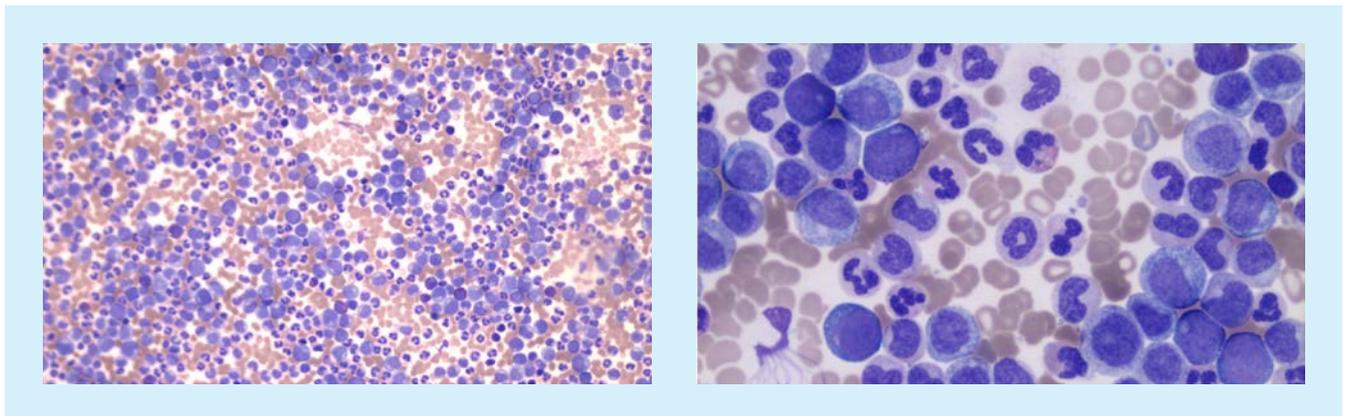
In this patient case, a 49-year-old male presented with acute symptoms at the doctor's office.

- The CBC+DIFF showed extremely high WBC counts, which were out of the linearity range of the analyser.
- This indicated a severe leukocytosis.
- In the WNR and WDF scattergrams of the XN-Series analyser the position of the cell populations could not be properly differentiated.
- Consequently, the scattergrams were identified as abnormal and multiple flags appeared.
- Further on, a blood smear and digital imaging analysis was performed.



## Peripheral blood smear – microscopic overview

The microscopic images confirmed a severe leukocytosis.



## Microscopic images showing neutrophils and immature granulocytes (IG)

- Digital imaging analysis of the patient's peripheral blood smear showed massive numbers of neutrophils and IG.
- The overproduction of IG is characteristic of CML.
- Consequently, further investigations confirmed the CML diagnosis.

