NEO GENOMICS

COMPASS® for Blood

Diagnose many hematologic malignancies from an easy-to-obtain peripheral blood sample

COMPASS for Blood is a diagnostic solution guided by a board-certified hematopathologist that delivers definitive and actionable results for complex malignancies.

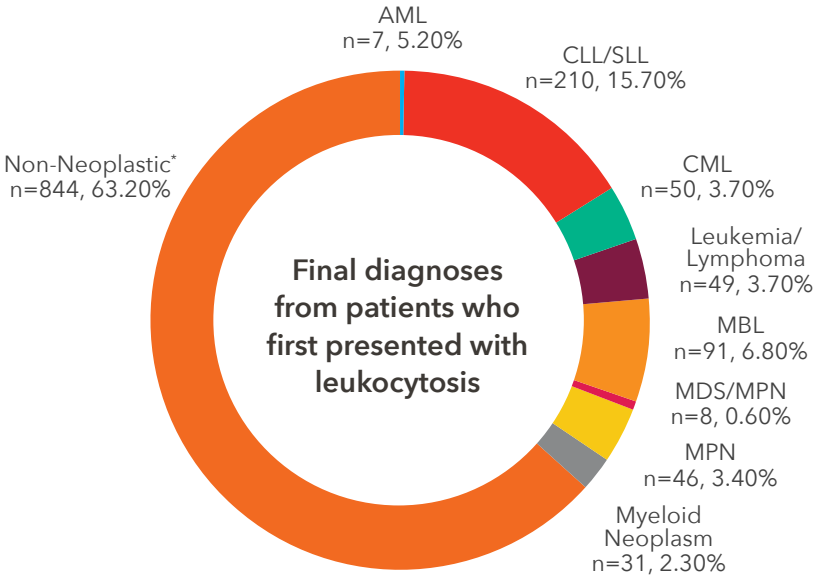
Peripheral blood presentation	Possible diagnosis
Leukocytosis, erythrocytosis, thrombocytosis	Acute leukemia, MPN, CLL, reactive causes (infection, drug reaction, immune phenomena, nutritional deficiency, etc.) and multifactorial etiologies
Cytopenia	Acute leukemia, MDS, T-cell disorders, marrow infiltrative processes and reactive and multifactorial etiologies

What is COMPASS for Blood?

COMPASS for Blood utilizes medically necessary methodologies such as morphology, flow cytometry, cytogenetics, and/or FISH and molecular to arrive at a definite diagnosis.

Consider COMPASS for Blood in patients who present with the following:

- Certain CBC abnormalities
- Ineligibility for a bone marrow biopsy
- Poor performance status
- Reluctance to have a biopsy



Samples were collected over a 20-month period 1/1/2018-8/20/19 (Data on file). Final diagnosis of specimens from patients who presented with leukocytosis.
*Diagnosis inclusive of reactive causes, secondary causes, multi-factorial and other.

N=1,336

COMPASS
COMPREHENSIVE ASSESSMENT

COMPASS® for Blood

For patients with a suspected malignancy

COMPASS for Blood is a complete diagnostic solution for patients presenting with certain blood cell conditions to either diagnose cancer or other non-malignancies. With more than 35 board-certified hematopathologists on staff, NeoGenomics has diagnosed a broad range of hematologic malignancies from peripheral blood samples to help advance patient care.

How did COMPASS for Blood impact patient care in this case?

- Results of FISH and IgVH mutation analysis alone would place the patient in a favorable prognostic grouping.
- Utilization of NeoTYPE® CLL Prognostic Profile identified a TP53 mutation, thereby placing the patient in the correct category of unfavorable prognosis.[1] A
- TP53 mutation in CLL is an unfavorable risk factor that has shown poor survival and reduced response to chemoimmunotherapy.[2]

Informed treatment decisions with COMPASS for Blood

- Integrated mutational and cytogenetic models improve CLL prognostication accuracy compared with cytogenetics alone.[1]

COMPASS for Blood is a complete and comprehensive workup that provides a definitive diagnosis and personalized plan to accurately inform patient care.

A

NEO GENOMICS

866.776.5907, option 3

COMPASS®

Client 1630
Sample Hematology/Oncology Office

999 Elm Street
Mars, FL 33916
Phone: (222) 555-7777
Fax: (555) 888-9797

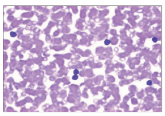
Patient Name: **Doe, Jane**
Patient DOB / Sex: **01/01/1939 / F**
Specimen Type: **Peripheral Blood**
Body Site: **Peripheral Blood**
Specimen ID: **S98765**
MRN: **123456**
Reason for Referral: **Breast Cancer, Lymphocytosis, Hypothyroidism**

Ordering Physician(s): **Doctor Sample, MD**
Treating Physician(s): **Doctor Sample, MD**
Accession / CaseNo: **2541112 / GPS20-000898**
Collection Date: **01/28/2020**
Received Date: **01/29/2020 02:58:00 PM CST**
Report Date: **01/29/2020 05:36:28 PM EST**

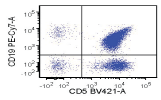
Clinical History:
History of breast cancer, lymphocytosis and hypothyroidism. Accompanying CBC report, dated 01/24/2020, indicates WBC 15.0 K/uL, RBC 4.92 M/uL, Hgb 14.9 g/dL, HCT 44.9%, MCV 91 fL, MCH 30.3 pg, MCHC 33.3 g/dL, RDW 13.1%, platelets 203 K/uL with a differential count of neutrophils 21.6%, lymphocytes 67.1%, monocytes 9.7%, eosinophils 0.6%, basophils 1.0%.

Final Diagnosis:
CHRONIC LYMPHOCYTIC LEUKEMIA (~53%) WITH AN OVERALL UNFAVORABLE PROGNOSTIC PROFILE.

Comprehensive Assessment
The morphologic findings, in conjunction with the flow cytometric results and the CBC data, are consistent with chronic lymphocytic leukemia (CLL). There is no evidence of large cell transformation. Although 13q-, hypermutated IGVH, and low CD38 expression on the clonal B-cells are generally associated with a favorable prognosis in CLL/SLL, the TP53 gene mutation detected by CLL Prognostic Profile is associated with an unfavorable prognosis. Genomic alterations impacting TP53 function are associated with the worst outcomes, with short treatment-free interval, short median survival, and poor response to chemoimmunotherapy. Correlation with other clinical data is recommended.



Morphology
PERIPHERAL BLOOD:
-Lymphocytosis, consistent with chronic lymphocytic leukemia.
-Monocytosis, morphologically unremarkable.

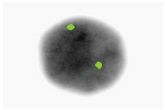


Flow Cytometry
Peripheral blood with CD5+ monoclonal B-cells (~53% of the total events), favor CLL. CD38 expression is not elevated in the monoclonal B-cells.

FISH

6q-:	Not Detected	Chromosome 12:	Not Detected	**Chromosome 13:**	**DETECTED**
Chromosome 11:	Not Detected	Chromosome 17:	Not Detected	CCND1/IgH t(11;14):	Not Detected

del(13q)



NeoTYPE™ CLL Prognostic Profile
TP53; p.E258G **DETECTED**
IgVH Mutation Analysis; Expressed VH Family(s)- IGHV3-7*01 Mutation Rate- 5.7% **MUTATED**

Many hematologic malignancies may require a follow-up bone marrow biopsy for further evaluation.

References:
1. Rossi D, Rasi S, Spina V, et al. Integrated mutational and cytogenetic analysis identifies new prognostic subgroups in chronic lymphocytic leukemia. *Blood.* 2013 Feb 21; 121(8): 1403–1412. **2.** Rossi D, et al. The Prognostic Value of TP53 Mutations in Chronic Lymphocytic Leukemia Is Independent of Del17p13: Implications for Overall Survival and Chemorefractoriness. *Clin Cancer Res.* 2009. 995;15(3).

NeoGenomics Laboratories is a specialized oncology reference laboratory providing the latest technologies, testing, partnership opportunities, and interactive education to the oncology and pathology communities. We offer the complete spectrum of diagnostic services in molecular testing, FISH, cytogenetics, flow cytometry and immunohistochemistry through our nationwide network of CAP-accredited, CLIA-certified laboratories.

NEO GENOMICS

12701 Commonwealth Dr., Suite 9
Fort Myers, FL 33913
Phone: 866.776.5907 | Fax: 239.690.4237
www.neogenomics.com