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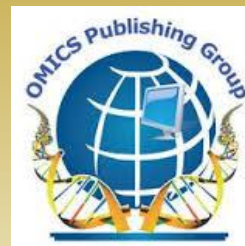
Dr. Ken H. Young



**EDITOR
journal
of
Chemotherapy**



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BIOGRAPHY

Ken H. Young, MD PhD is an Associate Professor in the Department of Hematopathology at the University of Texas MD Anderson Cancer Center. He was Medical Director of Hematology at the University of Wisconsin School of Medicine and University East & West Clinic Laboratories, overseeing the laboratories at the University of Wisconsin Hospital and Clinics Core Laboratory. He received his PhD from University of Lund School of Medicine and completed his MD training from Oregon Health Science University. He is board certified in Anatomic and Clinical Pathology and Hematopathology.

RESEARCH INTREST

- His interests are to characterize molecular defects in patients with leukemia and lymphoma by using gene expression profiling, immunophenotypic method, methylation-microRNA-CGH arrays and current NGS molecular technologies with particular interest in tumor suppressor genes, oncogenes, p53 and NF-k B pathways. He has worked extensively on molecular diagnostics for human cancer and has obtained several novel discoveries valuable to predict treatment response, clinical outcome and survival in cancer patients.

PUBLICATIONS

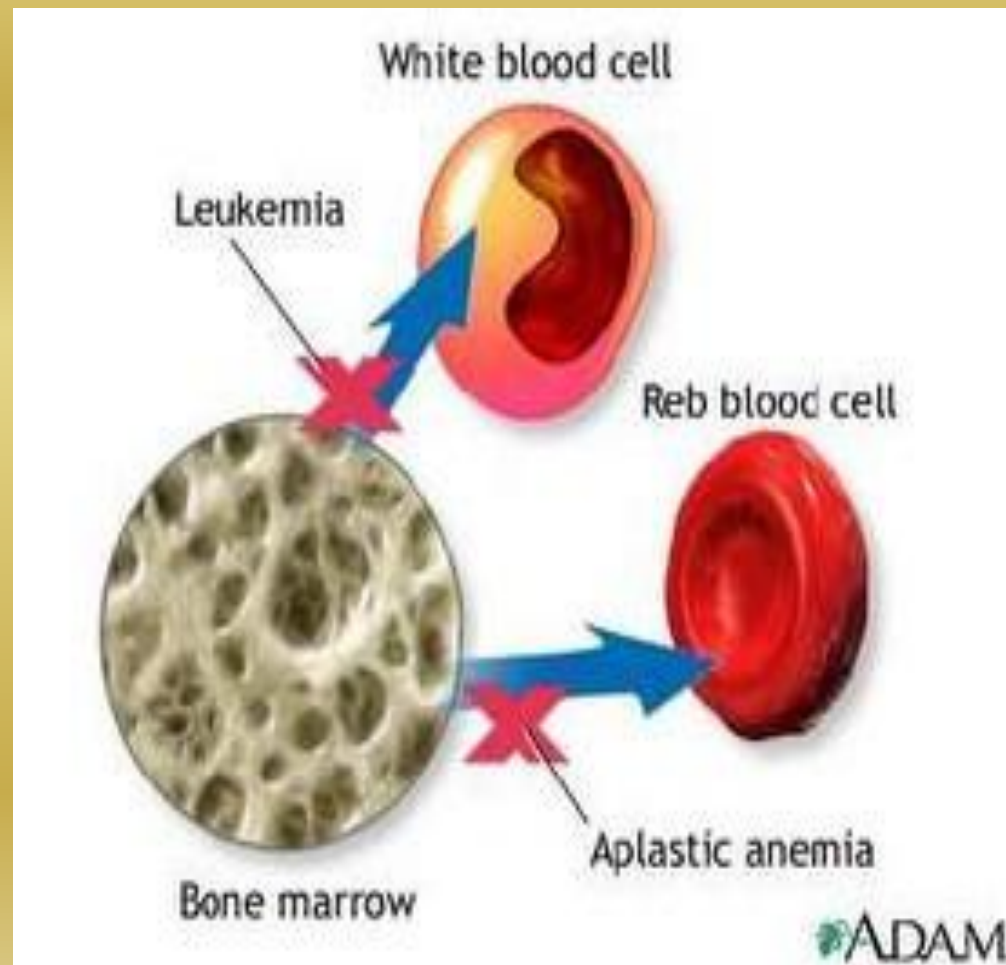
- **EBV-positive diffuse large B-cell lymphoma of the elderly.** Chi Young Ok, Thomas G Papathomas, L Jeffrey Medeiros, Ken H Young
- **Recent advances in de novo CD5(+) Diffuse Large B cell Lymphoma (DLBCL).**
Preetesh Jain, Luis E Fayad, Andreas Rosenwald, Ken He Young, Susan O'Brien
- **Haematological cancer: Richter's transformation in CLL-a distinct lymphoma.**
Ken H Young
- **Genome-wide high resolution DNA profiling of hairy cell leukaemia.**
Andrea Rinaldi, Ivo Kwee, Ken H Young,
- **CD30 diagnostics and testing.** Ken H Young

LEUKEMIA



INTRODUCTION

- Leukemia is cancer that originates in blood-forming tissue. The disease is characterized by the uncontrolled growth of blood cells, usually white blood cells (leukocytes), in the bone marrow. White blood cells are a fundamental component of the body's immune response. The leukemia cells crowd out and replace normal blood and marrow cells.



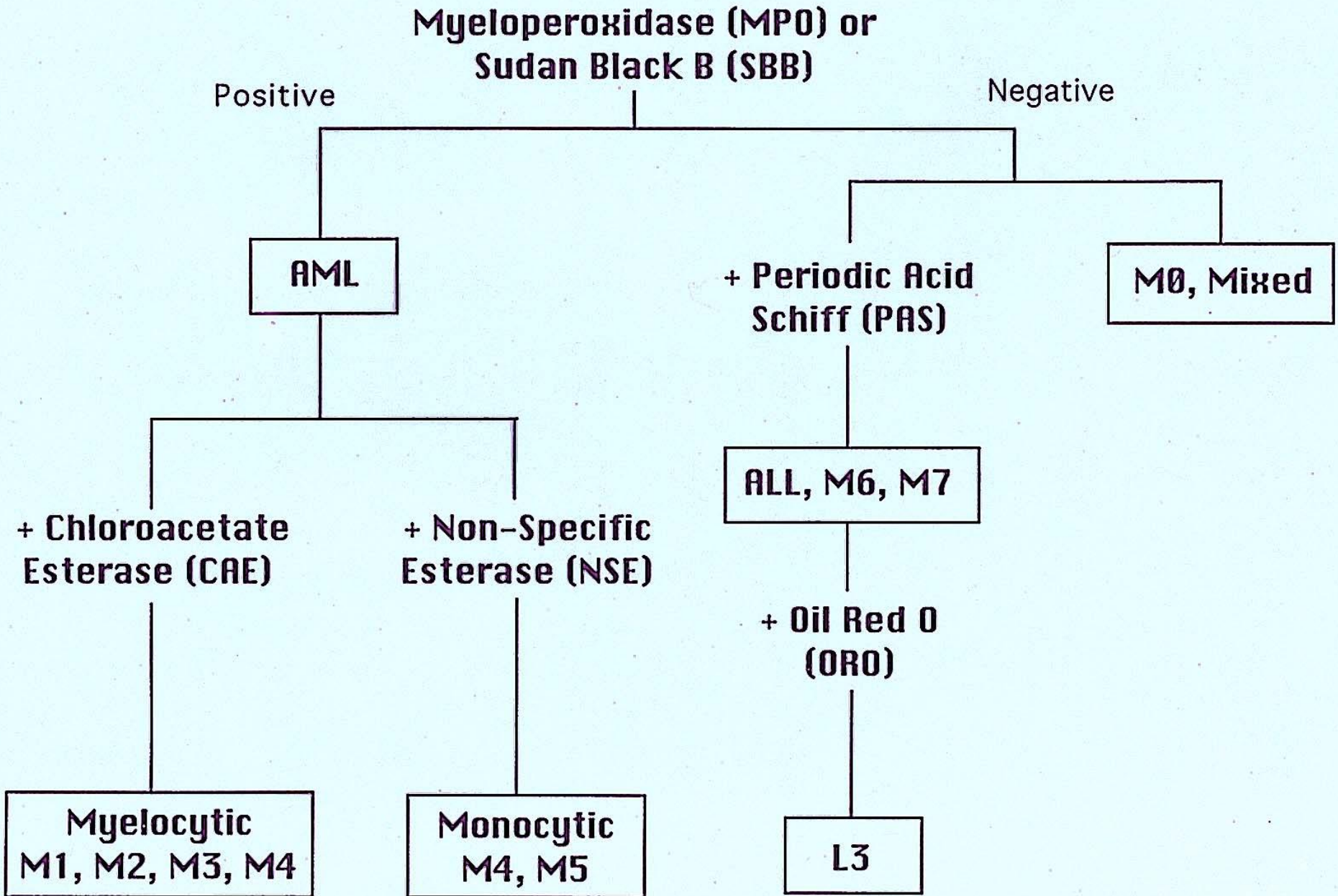
TYPES

- There are four main types of leukemia:
- Acute myeloid leukemia (AML)
- Chronic myeloid leukemia (CML)
- Acute lymphocytic leukemia (ALL)
- Chronic lymphocytic leukemia (CLL)

Acute myeloid leukemia

- Insidious nonspecific onset
- Pallor due to anemia
- Febrile due to ineffective WBC
- Petechiae due to thrombocytopenia
- Mucus membrane and gum bleed in M4 and M5
- Bone pain

CYTOCHEMICAL CLASSIFICATION OF ACUTE LEUKEMIA



Chronic myeloid leukemia (CML)

- Leukocytosis with blastemia
- Thrombocytosis
- Basophilia
- Micro-megakaryocytes
- Low LAP score (intermediate if infected)
- About 10% blasts in BM
- Philadelphia chromosome

Acute lymphocytic leukemia (ALL)

- L1: Small homogeneous blasts; mostly in children
- L2: Large heterogeneous blasts; mostly in adults
- L3: “Burkitt” large basophilic B-cell blasts with vacuoles

Chronic lymphocytic leukemia (CLL)

- Exclusive in elderly
- Lymphocytosis unrelated to viral infection
- Hyper-mature lymphocytes with highly condensed nuclei
- Smudge cells: preventable with a drop of bovine albumin

SYMPTOMS

- Some general symptoms of leukemia include:
- Fever, chills
- Fatigue, weakness
- Loss of appetite, weight loss
- Night sweats
- Bone/joint pain
- Abdominal discomfort
- Headaches
- Shortness of breath
- Frequent infections
- Easy bruising or bleeding
- Petechiae (small red spots under the skin)

PREVENTION

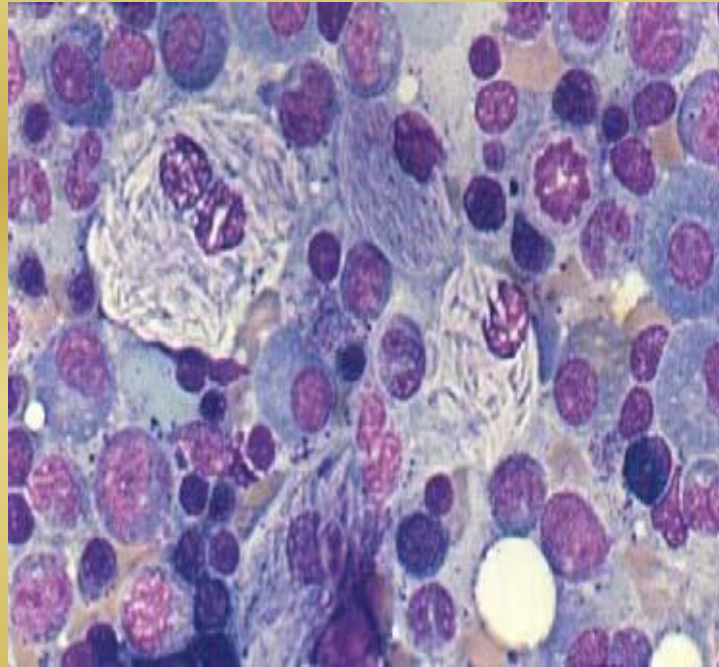
- leukemia may be prevented by avoiding high doses of radiation, exposure to the chemical benzene, smoking and other tobacco use, or certain types of chemotherapy used to treat other types of cancer

TREATMENT

- The treatment of leukemia is among the most intensive of all cancer therapies. Leukemia is a cancer of the bone marrow. This is the place in the body that manufactures most of the body's disease fighting cells. The treatment of leukemia wipes out these cells along with the cancer cells.
- Treatment often severely compromise immune function and the body's ability to fight infection. Patients need a tremendous amount of supportive care to recover fully. That's why people with this disease should be treated in medical centers that routinely care for leukemia patients and that provide excellent supportive care, especially during periods of immune suppression.

DIAGNOSIS

- Your doctor may not suspect leukemia based on your symptoms alone. However, during your physical examination, he or she may find that you have swollen lymph nodes or an enlarged liver or spleen. Routine blood tests, especially blood cell counts, may yield abnormal results.
- At this point, your doctor may order other tests, including
- A bone marrow biopsy (a sample of bone marrow is removed and examined)
- More blood tests, to check for abnormal cells
- Tests for genetic abnormalities, such as the Philadelphia chromosome.
- Genetic tests can help determine exactly what type of leukemia you have. (Each of the four main types has subtypes.) These sophisticated tests may also offer clues as to how you will respond to a particular therapy.



**Bone marrow aspirate
and biopsy**

Approved By

E-signature:

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