

Chronic lymphocytic leukemia prognosis and treatment

Value Proposition

B-cell chronic lymphocytic leukemia (CLL), the most common leukemia in North America, is a disease of CD5+ B lymphocytes characterized by slow proliferation and decreased apoptosis. The decreased apoptotic death of CD5+ B lymphocytes contributes to their increased abundance in blood, producing the clinical entity of CLL. The progression of this disorder is often indolent, with a median survival over 20 years from the time of diagnosis. CLL is characterized by overexpression of anti-apoptotic proteins, and commonly employed therapies in CLL increase apoptotic cell death. While these treatments exist, the disease is incurable. Most patients present with CLL at an early stage. Some of these early stage patients may live for years with no need for treatment, while others advance very rapidly, requiring treatment within months and rapidly progressing to death. It is difficult to give an accurate prognosis for these early stage patients at the time of presentation. There is need for more effective prognosis and treatment options for diseases such as CLL.

Technology

Duke inventors have reported a method of providing a prognosis and treatment for chronic lymphocytic leukemia (CLL). This invention identifies a patient afflicted with CLL who is responsive to treatment with a chemotherapeutic agent by detecting the presence or absence of at least one APOE4 allele in the subject, the presence of an APOE4 allele identifying the subject as responsive to the treatment. The CLL patient's treatment with an estrogenic agent, an androgen withdrawal agent, an apoE4 peptide or mimetic thereof, and/or a chemotherapeutic agent can then be planned. This invention also determines a prognosis for a patient diagnosed with CLL and provides methods for stratifying patients into a subgroup of a clinical trial. This method was developed by studying 183 patients with CLL.

Advantages

- Provides knowledge to help patient and physician determine a CLL prognosis
- Can inform an appropriate treatment strategy
- Can identify patients for clinical trials

Duke File (IDF)

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Links

- [From the lab of Dr. Warren James Strittmatter](#)
- [From the lab of Dr. Joseph Brice Weinberg](#)

College

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Publications

- [Apolipoprotein E genotype as a determinant of survival in chronic lymphocytic leukemia \(Leukemia, 2008\)](#)

Patents

Patent Number: 7,902,147

Title: Chronic Lymphocytic Leukemia Prognosis and Treatment

Country: United States of America

Patent Number: 8,980,569

Title: CHRONIC LYMPHOCYTIC LEUKEMIA PROGNOSIS AND TREATMENT

Country: United States of America