A Review on Prophylaxis Treatments for Chronic Lymphocytic Leukemia Infections

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Chronic Lymphocytic Leukemia (CLL) is a type of cancer of the blood and bone marrow that degrades the immune system of a person. This is due to the uncontrolled white blood cell (lymphocyte) growth. The disruption of lymphocyte growth affects the response to pathogens, leading to a disruption in the immune system. Patients with CLL are prone to infections due to their immunodeficiency. As of 2019, there have been 20, 720 new cases of CLL in the United States and approximately 3,930 deaths. Recent studies have analyzed infection prevention methods to increase survival rates for people with CLL. Intravenous Immunoglobulin Prophylaxis (IVIG) has been demonstrated to elevate levels of immunoglobulins, which are as the first line of defense against pathogens. The IVIG entails extracting antibody proteins from the plasma of a healthy donor and injecting those antibodies into a CLL patient. Another treatment for this infection is the antimicrobial drug Fludarabine Prophylaxis (FAMP). FAMP reduces the growth of lymphocytes in the blood system which allows for the immune system to produce regular amounts of immunoglobulins necessary to prevent infections. This review compares the biochemistry of IVIG and FAMP as treatments for infections in patients with CLL and indicates that IVIG is a more effective treatment than FAMP.