

The deletion of both Cμ genetic regions, which encode for the constant region of the μ heavy chains, would have significant implications for the affected individual.

Reduced Immune Response to Infections: IgM antibodies are the first line of defense during an infection.

Clinical Manifestations: Clinically, the individual may present with recurrent or severe infections, particularly those caused by encapsulated bacteria, which are normally targeted by IgM antibodies. Without functional IgM antibodies, the individual would have a weakened immune response to infections, making them more susceptible to bacterial and viral illnesses. The deficiency of IgM antibodies could lead to an accumulation of apoptotic cells and immune complexes, potentially increasing the risk of autoimmune disorders.

Potential Compensatory Mechanisms: It's possible that the body may attempt to compensate for the absence of IgM antibodies by upregulating other antibody classes, such as IgG or IgA.

Increased Susceptibility to Autoimmune Disorders: IgM antibodies also play a role in the clearance of apoptotic cells and immune complex clearance, helping to prevent autoimmune reactions. This deficiency in IgM antibodies could compromise the individual's ability to mount an effective immune response against pathogens.