Uses of Adalimumab and its Future Application to the Treatment of Autoimmune Disease

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Abstract

This paper is a thorough literature review about the previous uses of the monoclonal antibody adalimumab, particularly in the treatment of autoimmune diseases. After being approved for the treatment of rheumatoid arthritis, its uses only grew, now encapsulating inflammatory bowel disease, uveitis, and hidradenitis suppurativa. In addition to its on-label uses, it has been used to treat a variety of other diseases, almost always when first-, second-, and even third-line treatments fail. Understanding adalimumab comes down to understanding TNF-α, the cytokine it inhibits, and the drug's pharmacological properties. TNF-α, a key inflammatory cytokine in the immune system, is implicated in the etiology of many diseases, especially autoimmune. Getting to the bottom of the cascade it is a part of helps shed light onto the path by which one's immune system starts to malfunction and attack self tissues. Adalimumab's pharmacology, encompassing how it is administered, by what means and how much the body distributes the drug into tissues, how fast it takes to work, what it specifically acts on within the body, and how long and through which organs it gets eliminated, is integral to understanding the precise way it interacts with TNF-α, thereby interfering with the inflammatory, disease-causing process.