Recent Advances in Pharmacotherapy of Ulcerative Colitis


Department of Pharmacaceutics, Maharishi Arvind College of Pharmacy, Ambabari, Jaipur, Rajasthan, India.

Received February 25, 2013; accepted Nov 2, 2013

ABSTRACT

Ulcerative colitis is a form of chronic inflammatory bowel disease (IBD) that produces inflammation and ulcers along the inside of the colon, which can interfere with the normal function of the colon. The disease typically starts to manifest in patients as young adults. Ulcerative colitis is an intermittent disease with periods of exacerbated symptoms, or flares, and periods that are relatively symptom-free. According to the Cohn’s and Colitis Foundation of America, several millions people suffer from ulcerative colitis worldwide. Current therapeutic approaches for ulcerative colitis are partially successful despite advances in GIT research. A significant proportion of patients with ulcerative colitis undergo colectomy. Nearly 50% patients do not achieve sustained remission, leading to impairment of physical and mental health, social life, employment issues and sexual activity. Budesonide is an oral, extended release synthetic corticosteroid that is recently approved for UC. Enteric-coated budesonide formulations resist gastric-acid degradation, delivering active drug to the small intestine and proximal colon. Budesonide is specifically indicated for the induction of remission in patients with active, mild to moderate ulcerative colitis. Budesonide has a high first-pass metabolism with minimal systemic absorption. This review describes recent advances in the pharmacotherapy of ulcerative colitis and outlines why future studies targeting sustained suppression of inflammation could have an enormous impact on the natural course of the disease. Ulcerative colitis needs intense therapy and it should be maintained until sustained remission and mucosal healing has been reached.

KEYWORDS: Ulcerative colitis; budesonide; remission; inflammation; IBD; corticosteroids

Introduction

According to the Crohn’s and Colitis Foundation of America, inflammatory bowel conditions affect thousands of people in the U.S. Several million people suffer from ulcerative colitis all over the world. Ulcerative colitis (UC) is a chronic inflammatory bowel disorder of the gastrointestinal tract characterized by mucosal inflammation of the rectum that extends proximally through the colon, in a continuous fashion, but to a variable extent. It is considered as an autoimmune disease. The disorder is characterized by a relapsing and remitting course of variable severity. The majority of patients present with left-sided or distal disease of mild-to-moderate severity. Most remain in remission for long periods with maintenance medical therapy (Farmer et al., 1993; Solberg et al., 2008).

Although most patients present with mild-to-moderate UC, 10% of patients initially present with severe disease. Additionally, approximately 15% of patients will develop a severe flare during the course of their lifetime. Acute severe UC can be defined according to the original criteria set forth by Truelove and Witts: six or more stools per day, with either a body temperature of more than 37.8 °C, a pulse rate of more than 90 bpm, large amounts of blood per stool, a hemoglobin level of less than 10.5 g/dl or an erythrocyte sedimentation rate of more than 30 mm/h (Truelove and Witts, 1955). Ulcerative colitis can occur in both sexes and in any age group but most often begins in people between 15 and 30 years of age.

In the West, the incidence and prevalence of inflammatory bowel diseases has increased in the past 50 years, up to 8–14/100,000 and 120–200/100,000 persons for ulcerative colitis (UC). Studies of migrant populations and populations of developing countries demonstrated a recent, slow increase in the incidence of ulcerative colitis, In patients with UC, the lesions usually remain superficial and extend proximally; colectomy is required for 10%–30% of patients. Prognosis is difficult to determine. The mortality of patients with UC is not greater than that of the population; the peak age for UC is 30–40 years. Some studies have reported that a second peak occurs at 60–70 years, but this observation has not been confirmed. Pediatric IBD accounts for 7% to 20% of all IBD cases, based on varying results from population based studies UC occurs slightly more frequently in men (60%). In the past 50 years, the incidence of UC first increased then stabilized or even decreased: during the stabilization phase, the prevalence of UC in the Punjabi population has been reported to be 44/100,000, and its incidence is 6.0/100,000.

Pathophysiology

The lower gastrointestinal tract may be divided into the cecum, the ascending colon, the transverse colon, the descending colon, the sigmoid colon and the rectum