How Can We Assess Prognosis in Crohn’s Disease?

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Individuals with Crohn’s disease (CD) show a wide variation in the way they present and progress over time. Some patients present with mild disease activity and do well with generally safe and mild medications. However, many exhibit more severe disease with an impaired quality of life, continued active gastrointestinal (GI) symptoms, and the eventual development of disease complications requiring surgery. Current and emerging potent therapies that target the immune system help decrease symptoms and appear to decrease the need for surgery. However, these therapies have increased the potential risk of serious side effects such as infection and malignancy. Being able to define (at the time of diagnosis) those individuals most likely to require aggressive medical therapy will provide the doctor and patient with information to better decide which therapy is most appropriate for them.

Subsets of patients with differing immune responses to microbial antigens have been described: antibodies to the *Escherichia coli* outer-membrane porin C (OmpC), as well as anti-*Saccharomyces cerevisiae* (ASCA) and autoantigens (ie, perinuclear antineutrophil antibody [pANCA]). A novel immune response, antiflagellin (anti-CBir1), has been identified in approximately 50% of CD patients and has been suggested to represent a unique subgroup of CD patients. These immune responses (ASCA in particular) have been shown to be associated with fibrostenosing, internal penetrating small bowel disease, and small bowel surgery. The research suggests that the presence (number of markers) and magnitude (antibody level) of immune responses to microbial antigens are significantly associated with more aggressive disease phenotypes. This concept was adopted and applied to a large CD cohort investigating a novel panel of antiglycan antibodies, and similar associations were found with disease behavior. In theory, higher levels of immune responses may reflect the degree of genetically predisposed mucosal dysregulation characteristic of CD, leading to a loss of ability to tolerate specific bacteria.

A recent prospective study conducted in a large pediatric cohort demonstrated that the time to develop a disease complication in children is significantly faster in the presence of immune