# Inflammatory bowel disease

Inflammatory bowel disease (IBD) is a disorder characterised by chronic inflammation of the gastrointestinal tract. There are two clinical subtypes, Crohn's disease (CD) and ulcerative colitis (UC). CD may affect any part of the intestine and is associated with discontinuous transmural lesions of the gut wall, whereas in UC inflammation is confined to the colon and rectum and the lesions are continuous and superficial. The annual incidence of UC and CD in Switzerland is unknown, but data from other Western countries suggest rates of 10 and 6 patients per 100 000 population respectively [1]. The Swiss IBD cohort, started three years ago and supported by a grant from the Swiss National Science Foundation, should provide answers to some of these epidemiological questions.

Treatments for IBD embrace anti-inflammatory drugs such as steroids, immunosuppression including targeted treatment with agents such as anti-tumour necrosis factor antibodies, and surgery if medical therapy fails [1, 2]. The molecular basis underlying the pathogenesis of IBD is not yet clear, but contributing factors may include persistent infections, a defective mucosal barrier and a disturbance or imbalance in the regulation of the intestinal immune response [3–5]. Recent epidemiological and genetic research has provided firm evidence for the existence of genetic determinants of susceptibility to IBD, and has raised expectations that the identification of IBD susceptibility genes may lead to a clearer understanding of the pathogenesis and ultimately to better treatment.

The detection of linkage on chromosome 16 (IBD1) led to the unequivocal identification of the NOD2 gene (now called CARD15) as a susceptibility gene for Crohn's disease [3–5]. This seminal discovery has furnished proof of principle for positional cloning and candidate gene approaches to identification of IBD genes. It has also produced useful strategic insights into complex disease genetics and signalled new directions in the investigation of molecular pathways to pathogenesis.

The present review of Vavricka and Rogler [6] summarises the current state of knowledge: the pathogenesis of Crohn's disease is no longer just a hyperresponsiveness of the gut immune system but a complicated interaction between genetic susceptibility and an impaired and inadequate immune reaction. With that knowledge the infectious, genetic and immune concepts as the basis for IBD development are converging.

What is in it for the patient? Better understanding of the molecular basis of IBD pathophysiology has opened up new treatment strategies with the introduction of biologicals. Biological agents have become an important cornerstone in the treatment of moderate to severe IBD [2]. After all, up to 50% of patients have no sustained or satisfactory response to classical therapies such as steroids and immunomodulators. Biologicals are new therapeutic agents including molecules selectively targeting single biological steps involved in the pathogenesis of disease. Biological agents add efficacy to treatment, but they also introduce new risks into the management of IBD. Some superiority of biological versus classic therapies is based on rapidity of action, mucosal healing, fistula healing and return to normal life. The efficacy and safety of an increasing number of biological agents have been demonstrated, but to date only monoclonal antibodies such as anti-TNF are available in the clinical setting. Many aspects remain to be elucidated, and we have a long way to go before a satisfactory regimen is found for the majority of IBD patients. Hopefully, translation of the new concepts into clinical benefit will soon become a reality.

*Christoph Beglinger*

*Correspondence:*
*Prof. Dr. Christoph Beglinger*
*Department of Gastroenterology and Hepatology*
*University Hospital*
*CH-4031 Basel*
*E-Mail: beglinger@tmr.ch*

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