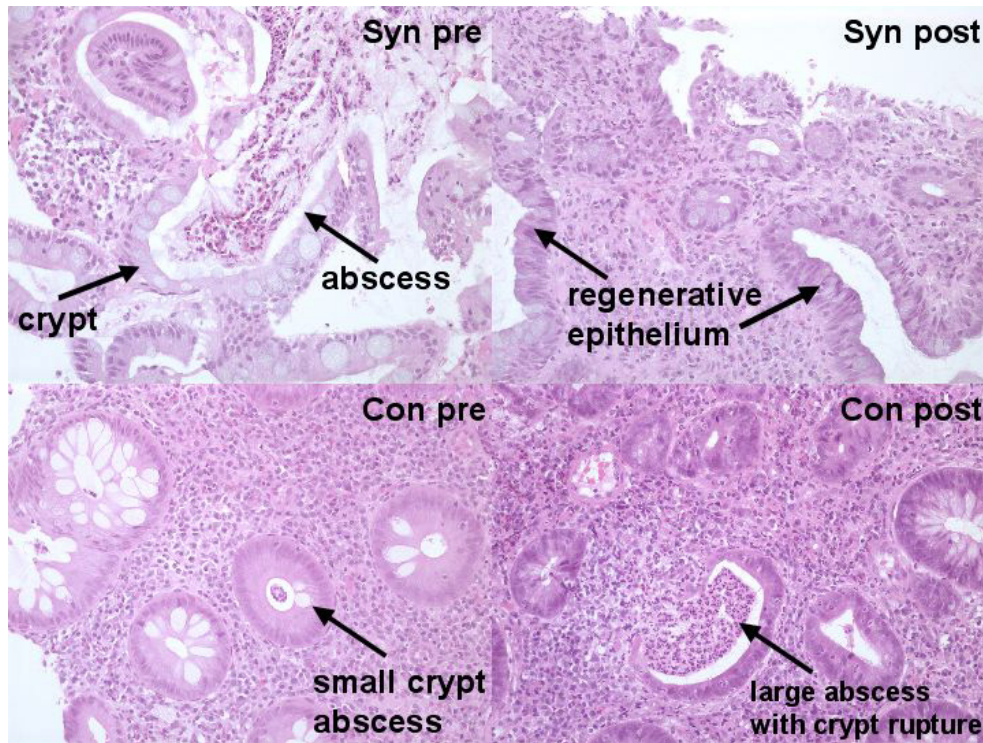


# Synbiotic for the Treatment of Ulcerative Colitis



*Comparison of pre and post-syn shows resolution of acute inflammatory activity following synbiotic consumption. Conversely the inflammation evident in pre-con has not resolved.*

- Synbiotic for UC
- Potential alternative to long-term steroid therapies and/or surgery
- May also be effective in the treatment of other related disorders
- Potential functional food
- Technology available for further collaborative development
- Additional information and pre-clinical data are available under a Confidentiality Agreement

**Researchers from the University of Dundee have developed a novel synbiotic formulation that promotes the growth of beneficial bacteria. A pilot trial has demonstrated the potential of the synbiotic for treatment of ulcerative colitis. This treatment provides effective therapy by promoting the body’s own defence system and reducing inflammation in the bowel of patients.**

**Background**

Ulcerative colitis (UC) is a form of inflammatory bowel disease affecting half a million people in the USA and over 120,000 in the UK. Existing treatment for UC depends on the extent and severity of the condition, but can involve a progression from initial treatment with anti-inflammatories through immuno suppressors and then steroid therapies . Patients may require periods of hospitalisation in severe cases. If drug treatment fails surgery becomes the last resort. While therapies may lead to periods of remission, they require continuous medication that may not be well tolerated by the patient with quality of life issues being of prime importance.

UC patients are deficient in specific mucosal bacterial populations, which may play a key but as yet unidentified role in the pathogenesis of the disease. A novel therapeutic approach under development in Dundee replaces the beneficial bacteria (probiotics) lacking in UC patients, in combination with a carbohydrate source (prebiotic) to encourage and promote their growth in the gut. The combined use of probiotics and prebiotics is known as a synbiotic. Such probiotics are non-pathogenic and may even inhibit the growth of pathogenic bacteria already present in the gut.

**New Methodology/Advances**

Research scientists at the University of Dundee have carried out a pilot study

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to investigate the potential of synbiotic therapy for the treatment of UC. A group of UC patients were given the synbiotic and compared with a control group of UC patients who were given a placebo for the same period of time. Patients administered with the synbiotic showed reduced levels of clinical signs and transcription levels of inflammatory mediators compared to the placebo group. Reduced inflammation and regeneration of epithelial tissue was also observed in the group receiving the therapy. Thus the researchers have provided the first evidence that synbiotics have high potential to be developed into therapies for patients suffering from UC.

#### **Commercialisation Opportunity**

This novel therapy encourages the body's own natural defence mechanism to manage UC. Such a synbiotic therapy will be relatively inexpensive to deliver and can be carried out with minimal alterations to the patient's daily routine or lifestyle, limiting the need for hospital resources.

Mild forms of inflammatory bowel disease and Irritable Bowel Syndrome would also benefit from synbiotic therapy, opening up a potentially huge global market.

#### **Collaboration Potential**

The University is seeking a commercial partner for further development of this treatment as part of research collaboration. It is envisaged that a strategic alliance will be formed to carry out research in the following areas:

- Further clinical trials to establish the long-term effects of synbiotic use in inducing and maintaining remission in patients with active UC and other Inflammatory Bowel Diseases
- Development of the synbiotic into a commercial therapeutic as a functional food.

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