

Finding the right treatments for different people with IBD

Half a million people in the UK live with Inflammatory Bowel Disease (IBD). They often have abdominal pain and bloody diarrhoea, which severely reduce their quality of life. People develop IBD when something goes wrong in the complex communication between the genes that they are born with and the useful bacteria that live in their gut. This can happen when one of a patient's genes is damaged and this damage spreads throughout their gut. Different people with IBD have damage to different genes in their gut.

Treatments for IBD work well for some people and sometimes don't work at all – depending on exactly which gene is damaged. If a doctor can find out which gene is causing their patient's IBD, they should be able to predict which treatments will work for them.

We found that some patients with IBD have damage to a gene called SYK. After looking carefully at how the SYK gene behaves, we predicted that animals with IBD caused by SYK damage could be cured using a bone marrow transplant – this was successful. This led to the first patient with IBD caused by with SYK damage being successfully cured using a bone marrow transplant.

Our research has meant that, in the future, more people with IBD may be cured using a bone marrow transplant if they have SYK damage and doctors can identify it. This shows how important it is to look at the genetics of people with IBD shortly after their diagnosis, to avoid years of unsuccessful treatment and to instead give them something that will work first time.

Our work led to an agreement from European doctors about how to diagnose and treat IBD. These recommendations have been adopted by the NHS, meaning that patients with IBD caused by one damaged gene are unlikely to be missed.

