

MEDICAL STUDENT PRIZE WINNER:
LAUREN MARKS



PROJECT: Biopsy Avoidance Strategy in Adult Coeliac Disease

'I am absolutely delighted to be awarded the Core Dr Falk medical student essay prize. I have thoroughly enjoyed my research and would like to thank my supervisor Professor David Sanders and the fantastic Gastroenterology department in Sheffield for their continued support and encouragement throughout. The bursary will enable me to further my knowledge by attending Gastroenterology conferences internationally, as well as enhance my career opportunities in the future.'

Lauren Marks is currently completing an intercalated BMedSci at The Royal Hallamshire Hospital in Sheffield. She will return to take up her 4th year medical studies at Sheffield University in September.

'Coeliac disease is a disorder affecting the small bowel, which contains lots of finger-like projections called villi. When affected individuals consume gluten, (which is present in wheat, barley and rye) these villi become damaged and flattened, making it difficult for the bowel to absorb nutrients. This flattening of the bowel surface is called villous atrophy. Coeliac disease is initially screened for by using blood tests that identify levels of coeliac-specific antibodies, particularly endomysial antibodies and tissue transglutaminase (tTG) antibodies.

Patients who have a positive result then undergo a camera test, called a gastroscopy, and small samples of bowel are taken and observed under a microscope to look for the flattened villi characteristic of coeliac disease. However, this test is not without risk, and is poorly tolerated by many patients. What if we could look more closely at the blood test values to identify a threshold above which we could be sure that the patient would definitely have a flattened bowel? This would confirm the diagnosis whilst avoiding the need for a gastroscopy in particular patients.

'The aim of my study was to identify whether patients with a tTG blood test value 10 times the normal limit could be correctly diagnosed with Coeliac disease without the need for a gastroscopy. I found that out of 443 patients, 56.9% had a tTG value greater than 10 times the upper limit of normal. 100% of these patients had villous atrophy on biopsy and therefore would have been correctly diagnosed with coeliac disease without a gastroscopy using this criterion. This would reduce the number of coeliac patients needing a camera test by more than half.'

'I chose this research topic as I have a keen interest in Gastroenterology. Coeliac disease is an increasingly common condition, and therefore maximising diagnosis whilst minimising diagnostic discomfort is essential.'

Ms Marks' Supervisor Professor David Sanders comments:

'The core awards provide a fantastic opportunity to support medical student research and intercalated degrees which we hope will, in turn stimulate a future generation of doctors to enter our speciality!

'Lauren's project is trying to answer a question which so many patients want to know. If they have a risk of coeliac disease can this be proven by a blood test rather than a biopsy? No patients want to have a camera test (gastroscopy) and biopsy. For some it is just uncomfortable but for others it is a 'horrendous experience'.

'Her research looked at blood levels of the antibody test for coeliac disease and demonstrated that at a 10 fold increased level of Tissue Transglutaminase Antibody had a very strong correlation with the presence of flat bowel (villous atrophy). This is ground breaking research that could well change clinical practice.'