Falk Foundation/Guts UK Awards 2025

MEDICAL STUDENT ESSAY PRIZE WINNER:
Katerina Ingham

Is There a Role for Serologically Screening Adult Patients with Type One Diabetes Mellitus for Coeliac Disease?

Ms Ingham undertook this project whilst intercalating for an BSc in Medical Research Sciences (gastroenterology) in the Academic Unit of Gastroenterology at the Sheffield Teaching Hospitals. Ms Ingham is currently completing her fourth year of studies at the University of Sheffield School of Medicine.

Ms Ingham explains:

'My project focussed on whether adult patients with type one diabetes should be screened for coeliac disease. I chose this project because I was interested to learn in depth about both of these significant medical conditions and I wanted to have some experience of medical research. I had carried out a previous placement with the GI team in Sheffield, which inspired me to return here for my BSc.

'Coeliac disease and type one diabetes are both chronic autoimmune conditions with life-changing impacts, particularly on diet. Coeliac disease is an immune-mediated enteropathy in response to dietary gluten, with the only treatment being a gluten free diet. Type one diabetes involves the autoimmune destruction of the beta cells of the pancreas, causing a permanent state of hyperglycaemia due to insufficient insulin. This is treated using insulin therapy and blood glucose monitoring.

'Previous studies have demonstrated a link between coeliac disease and type one diabetes, likely due to their shared association with the HLA DQ2 and DQ8 genes. However, there is limited research on adult patients with these conditions and there are no current screening guidelines for adult patients with type one diabetes for coeliac disease. Therefore, we proposed the research question of whether adult patients with type one diabetes should be screened for coeliac disease.

'We conducted an observational cohort study using databases of patients with type one diabetes and with coeliac disease. Eighty-eight patients met all the criteria for the study group, and we compared them to age and sex-matched controls.

'We found a prevalence of coeliac disease in type one diabetes of 3.8% (higher than the 1% found in the general population). Patients with type one diabetes also presented differently with coeliac disease, with more patients reporting dyspepsia or being asymptomatic at diagnosis compared to controls. We found no significant differences in IgA-tTG titres or HbA1c levels at one-year follow-up between the study group and control groups, suggesting patients with type one diabetes and coeliac disease are able to adhere to a gluten free diet as well as managing their blood sugars. Our findings showed that many of the WHO principles for the utility of a screening test are met by testing patients with type one diabetes for coeliac disease using IgA-tTG. However, the small sample size of our study means that larger scale studies would be beneficial. The research we conducted produced important findings which demonstrates the importance of a holistic approach to healthcare.

'This was a project involving real patients and so it was exciting for me to be involved with it. Additionally, I have improved my understanding of research and learned how to work as part of an extended clinical team.'

Ms Ingham's Project Supervisor, Professor David Sanders of the Academic Unit of Gastroenterology at The Royal Hallamshire Hospital Sheffield comments:

'Katerina Ingham is an exceptional medical student, who is resilient, caring and has a strong work ethic. During her intercalated degree, she demonstrated her dedication to her work and the Dr. Falk Guts UK award reflects this. Her research focused on the role of serological testing for coeliac disease in patients with type 1 diabetes. Katerina's work identified the role of case finding in these patients and examined long term outcomes that can help clinicians when seeing patients. This award reflects both her academic excellence and passion for clinical research which I am sure she will continue to excel in.'

Ms Ingham states:

'Winning the Dr. Falk Guts UK award is a real honour that I am so grateful for. I feel proud that my hard work during my BSc to conduct research on such an important topic has allowed me further opportunities and being rewarded in this way for my essay is a fantastic feeling. The award will hugely enhance my portfolio and give me something extra to speak about at interviews for future training posts. The financial aspect will really support me in my final year of medical school.'

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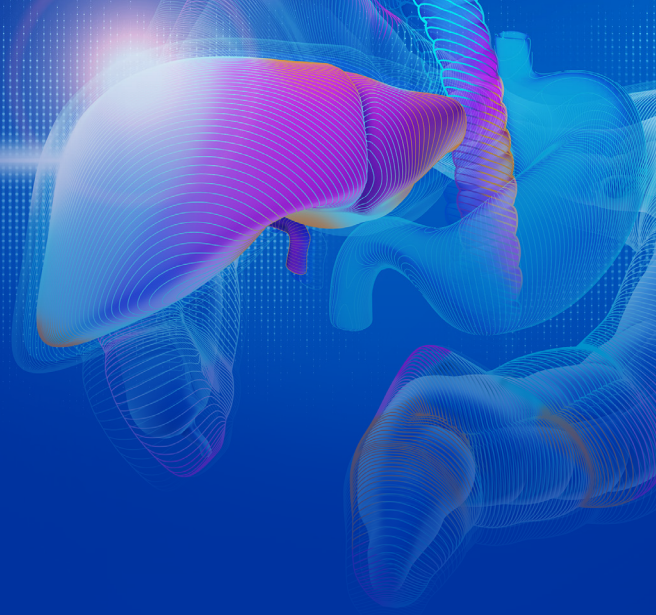

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