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Dr Falk/Guts UK Awards 2023

MEDICAL STUDENT PRIZE WINNER: **Ms Veena Shivakumar**

PROJECT: Capsule Endoscopy is Safe, Effective and Avoids the Need for Gastroscopy in a Varices Surveillance Programme: An Observational Cohort Study



Ms Shivakumar undertook this research project whilst intercalating for a BSc in Medical Research at the Academic Department of Gastroenterology and Hepatology, Sheffield Teaching Hospitals NHS Trust. In September Ms Shivakumar will return to her fourth year studies at the University of Sheffield Medical School.

Ms Shivakumar explains:

'Capsule endoscopy, particularly magnet-assisted capsule endoscopy, uses robotics as a means of visualising the GI tract. As I am particularly interested in how artificial intelligence could impact medicine in the future, this was a project which really attracted me. This project has also furthered my interest in gastroenterology, highlighting this area as a potential speciality to take up in the future.'

'Prevalence of chronic liver disease is increasing worldwide and with this, the prevalence of associated complications, one of these being varices. Traditionally, those with liver disease are screened for varices using endoscopy. However, this procedure is invasive and generally poorly tolerated. Furthermore, during the Covid-19 pandemic routine gastroscopy was regularly halted due to the high risk of infection spread associated with the procedure.'

'Pillcam UGI is the latest generation of upper GI capsules which are used as an alternative to endoscopy. It is a non-invasive means of visualising the gastrointestinal tract; it can be performed remotely and has a greater field of vision (348-degrees), and highest number of frames per second (35fps) compared to previous models.'

'This observational cohort study aimed to look at the safety and feasibility of using Pillcam UGI as an alternative to gastroscopy for varices surveillance, as well as evaluating the impact it had on further disease management, along with recording patient outcomes.'

'Of the 207 patients who underwent varices surveillance using Pillcam UGI, 58 had varices detected. Of these, 16 (28%) required further

management. Of the remaining 149 who did not have varices detected, 9(6%), required further management for other findings for example polyps or oesophagitis.'

'Ongoing management included medical therapy or further gastroscopy which was needed in 13 (6%) of all the patients, demonstrating that capsule endoscopy resulted in 194 patient avoiding gastroscopy. Only one individual experienced a complication (capsule retention) which was successfully removed by gastroscopy, whilst two other patient experienced variceal bleeding in the median 24 month follow-up period.'

'We concluded from this study that overall, capsule endoscopy is safe and a feasible alternative to gastroscopy for varices surveillance.'

Ms Shivakumar's Project Supervisor Consultant Physician and Gastroenterologist Professor M. E. McAlindon of the Academic Unit of Gastroenterology, Royal Hallamshire Hospital Sheffield, comments:

'Veena's project examined the outcomes of using capsule endoscopy for surveillance of varices in patients with chronic liver disease. We have previously shown that this non-invasive form of endoscopy was much preferred by patients than gastroscopy, which is particularly desirable in patients needing repeated examinations during their lifetime.'

'Veena showed that UGI capsule provided excellent oesophageal views, was safe, avoided the need for gastroscopy in most, was helpful in guiding patient management with very few variceal bleeding episodes during the follow up period.'

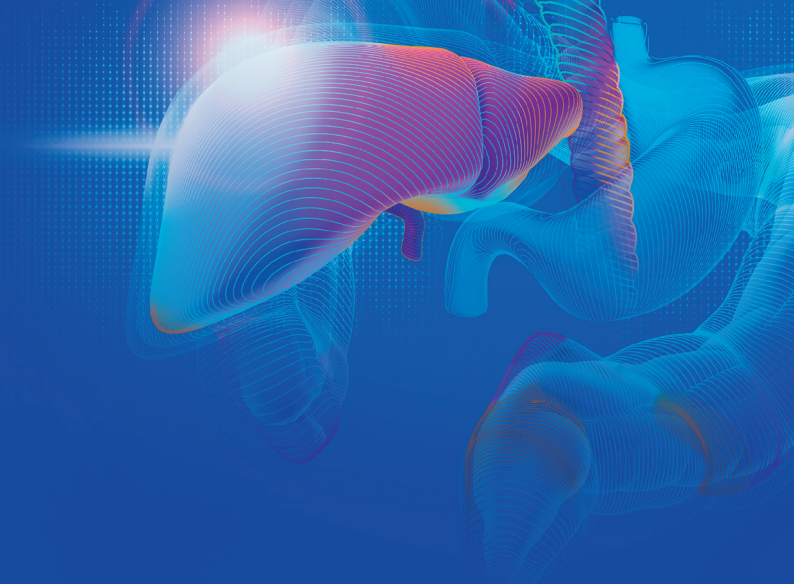
'Veena is diligent and thorough, independent and was a much-liked member of the capsule endoscopy team!'

Ms Shivakumar states:

'Working on this project has highlighted the positive impact that new medical developments can have on both patients and hospital practice. It has also allowed me to gain a personal insight into gastroenterology and the opportunities available in this field. Winning this award, has developed my confidence in my own research abilities, and has inspired me to continue pursuing research in the future.'



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