

INTRODUCTION

Conventional capsule endoscopy (CE) is often relatively contraindicated in cases of gastroparesis or luminal stenosis, as seen in Crohn's disease. These conditions increase the risk of capsule retention, which can lead to incomplete examinations and diagnostic delays. Magnetically controlled capsule endoscopy (MCCE) offers a novel solution, allowing precise navigation and overcoming anatomical challenges.

AIMS & METHODS

At our clinic, we have performed 2,700 MCCE procedures over the past seven years using the Anx Robotics magnetically controlled capsule endoscopy system. Here, we present 2 case studies, illustrating how magnetic navigation facilitated the capsule's advancement through the stomach to the duodenum or from the small bowel to the colon.

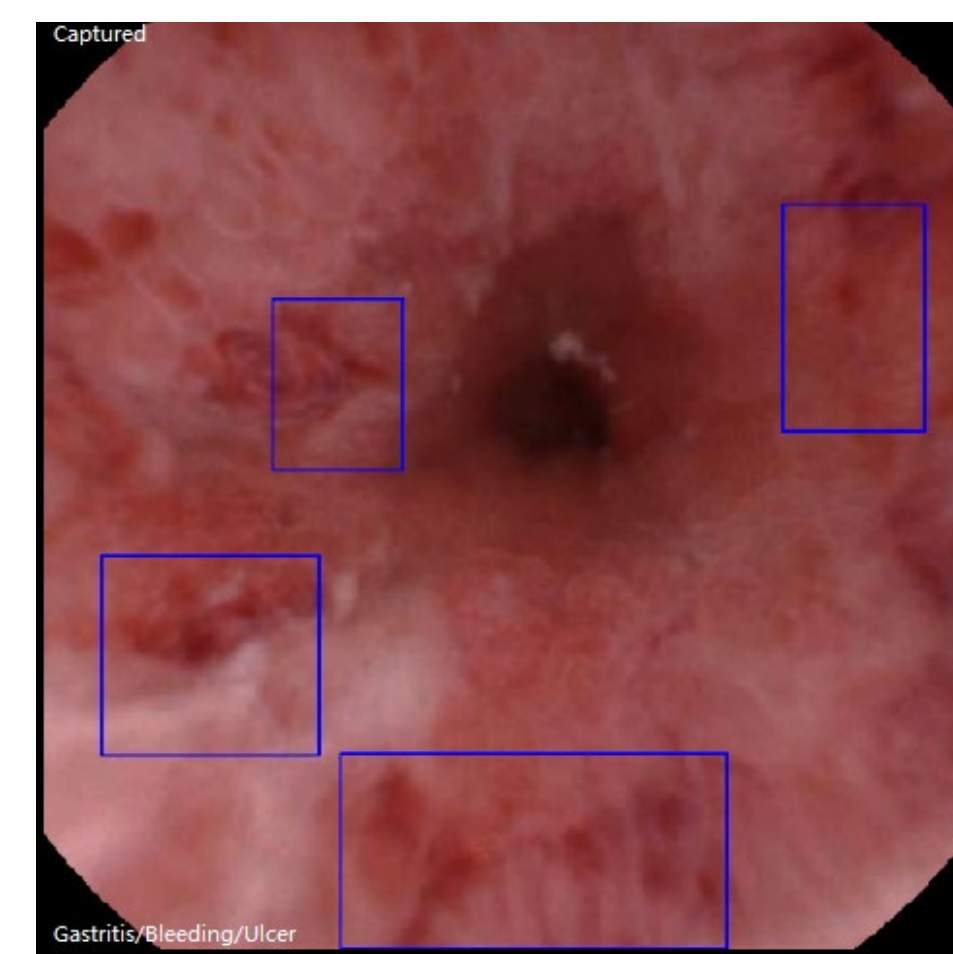
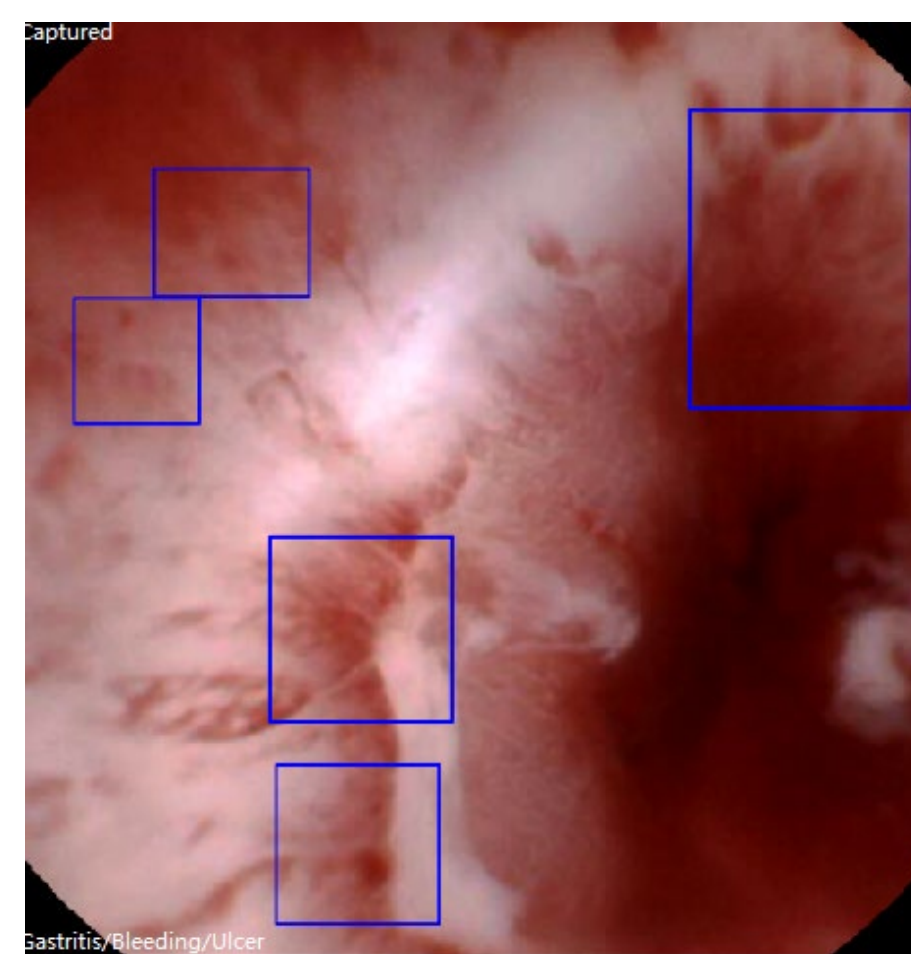
CASE REPORTS

CASE I.

29-year-old woman had **delayed gastric transit**, and the **capsule was unable to pass the pylorus** even after IV prokinetics. Finally magnetic navigation through the spastic pylorus was successful with our **special protocol**: supine patient position, positioning the capsule with the ball magnet into the antral canal, facing the CE towards the pylorus with the longitudinal axis, the magnet then should be high above and right side of the patient body, and pressing the patient's epigastrium with hand, making balloting movements.

CASE II.

A 64-year-old man with a 16-year history of **indeterminate colitis** (later confirmed as Crohn's disease) underwent small bowel capsule endoscopy for evaluation. A significant **luminal narrowing with circumferential, fibrin-covered ulcers** was identified in the terminal ileum over a 25–30 cm segment. The **capsule became stationed at this site, but was successfully navigated past the stricture using magnetic control**. Intravenous steroid therapy was initiated.



RESULTS

Magnetic rescue manouver attempt rates

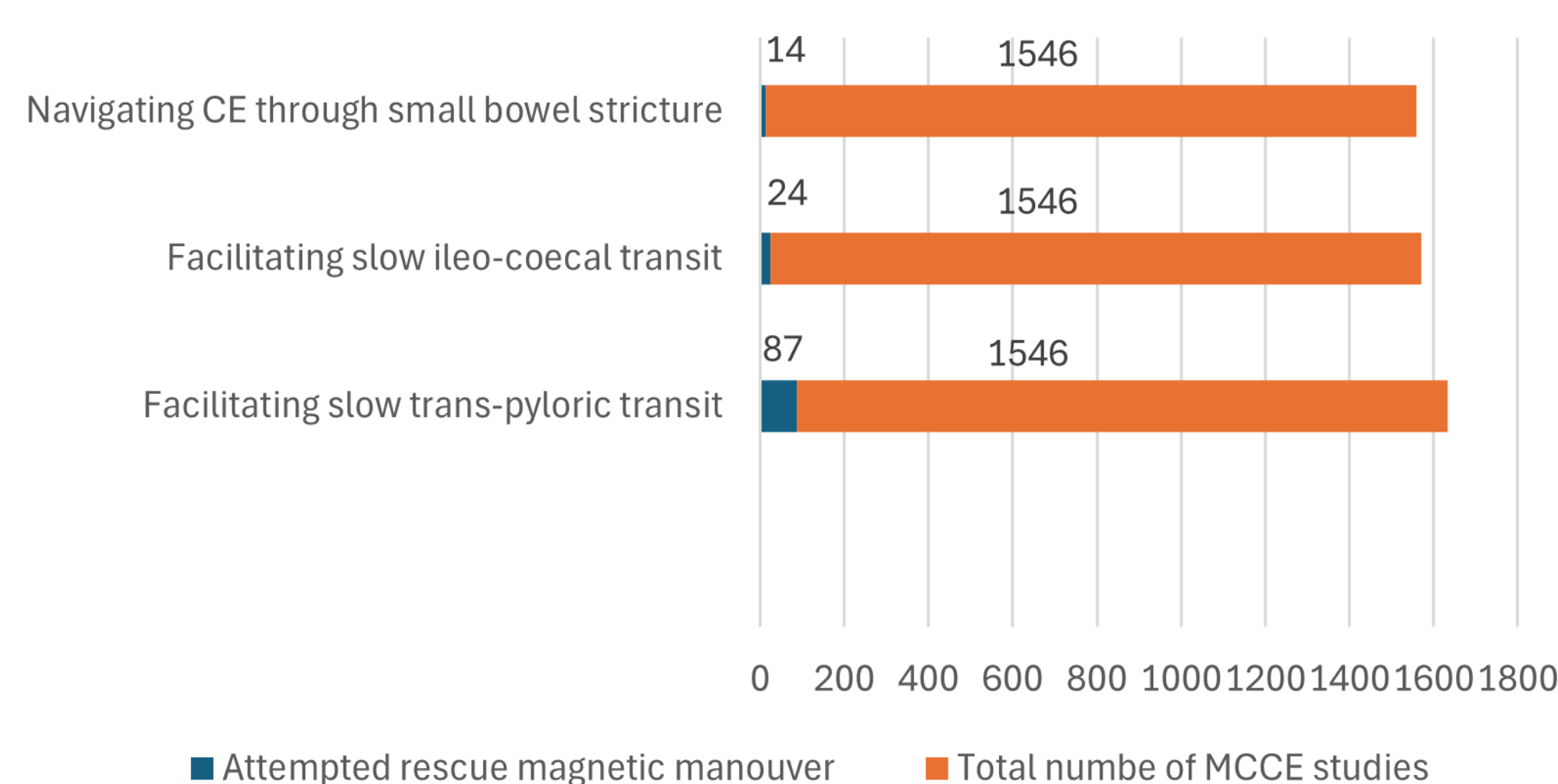
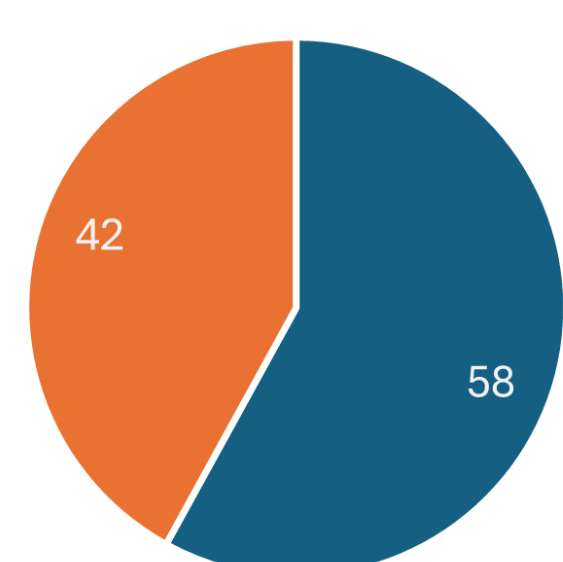


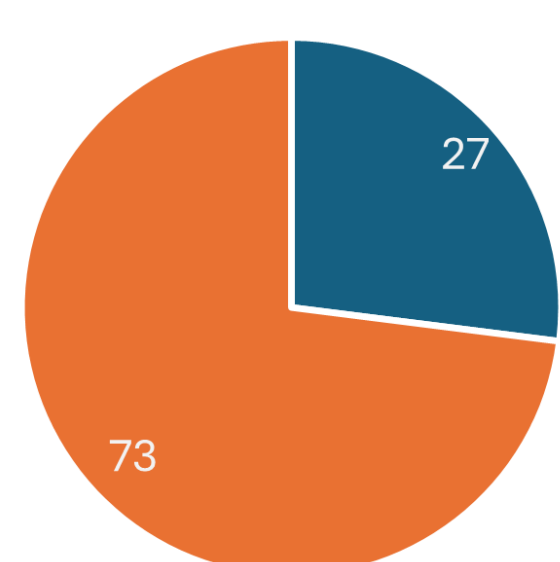
Fig. 1: Rescue was most frequently attempted in cases of delayed gastric emptying — or slow trans-pyloric transit — accounting for 87 interventions. Slower transit at the ileocecal valve prompted 24 manouvres, and 14 manouvres were attempted to help the capsule navigate through small bowel strictures.

Trans pyloric transit (%)



■ Successful ■ Unsuccessful

Small bowel stricture (%)



■ Successful ■ Unsuccessful

Fig. 2: Success rates of magnetic rescue manouvres based on the anatomical location of the transit issue

CONCLUSIONS

MCCE represents a groundbreaking advancement in endoscopic diagnostics for patients with high risk of capsule retention due to gastroparesis or luminal stenosis.

Our case series prove its potential to ensure complete examinations and **avoid the need for invasive interventions** to prevent complications.

By using precision of magnetic navigation MCCE offers a safer and more efficient diagnostic tool, particularly in challenging cases such as Crohn's disease.