

Case Report: Al-Assisted Capsule Endoscopy Rapidly Detecting Obscure Gastrointestinal Bleeding in High-Risk Cardiac Patients



Wah Loong Chan¹, Sivaraj Xaviar¹, Esther Jara Anak Edmund Nyipa¹, Stanley Khoo¹

¹ Gastroenterology and Hepatology Unit, Department of Medicine, Faculty of Medicine, University of Malaya, Malaysia

OBJECTIVES

This report details our experience using Artificial Intelligence (AI)-assisted capsule endoscopy in diagnosing obscure gastrointestinal bleeding (GIB) in a high-risk patient with a recent non-ST elevation myocardial infarction (NSTEMI).





CASE REPORT

A 79-year-old man with coronary artery disease presented with NSTEMI and underwent percutaneous coronary intervention (PCI). He was initiated on antiplatelet therapy but he developed melena and his haemoglobin dropped until 6.4g/dL. Conventional diagnostic methods, including upper endoscopy, colonoscopy, and CT angiography, failed to locate the bleeding source. His hemoglobin continued to decline by 1 g/dL daily despite transfusions. We employed AI-assisted capsule endoscopy (NaviCam® SB System with ProScan™ AI) to identify the cause of his persistent anemia.



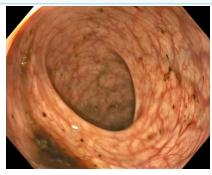
Initial colonoscopy showed fresh clots from the rectum until the cecum and fresh blood in the terminal ileum, indicating a possibility of small bowel bleed. The upper endoscopy was normal. A second colonoscopy, reaching 60 cm into the ileum, showed no bleeding. Al-assisted capsule endoscopy quickly detected mid-jejunal bleeding within minutes upon initiation of its ProScan™ Al feature, displaying a much faster analysis than the manual review methods. This rapid detection led to a surgical intervention, which is an exploratory laparotomy with on-table enteroscopy that confirmed an arteriovenous malformation 70 cm beyond the duodenojejunal flexure, which was successfully resected.

COLONOSCOPY



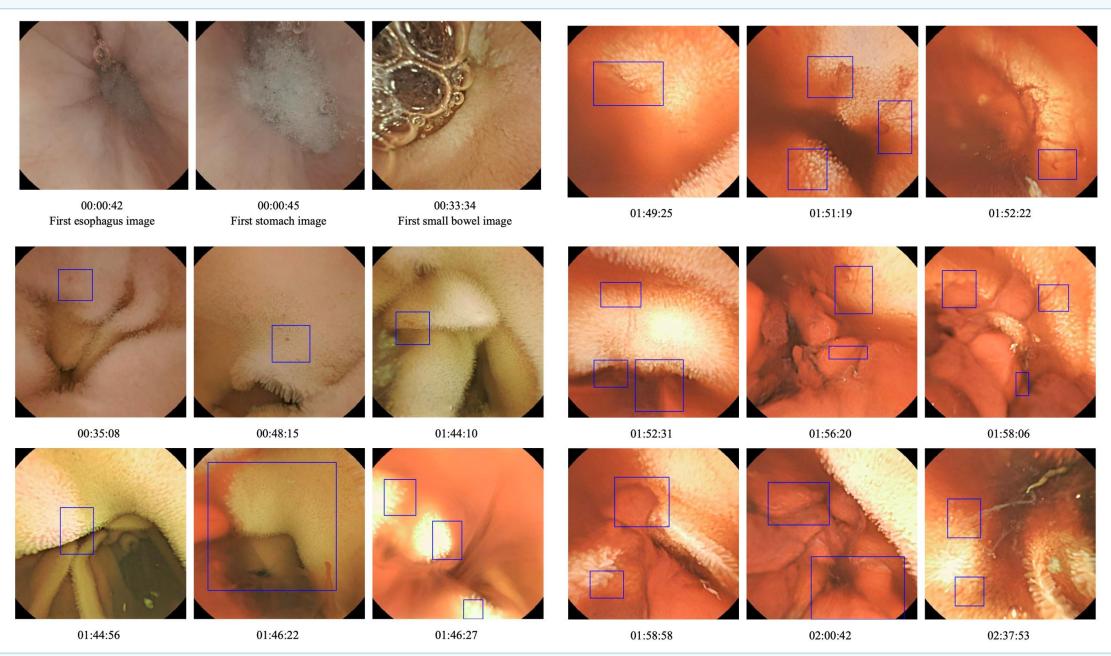






Colonoscopy finding: Scoped up till terminal ileum, no evidence of bleed seen

ARTIFICIAL INTELLIGENCE (AI) ASSISTED CAPSULE ENDOSCOPY (NaviCam® SB System with ProScan™ AI)



Al-assisted capsule endoscopy, equipped with the ProScan[™] Al feature, rapidly identified mid-jejunal bleeding within minutes, with the Al algorithm immediately flagging suspicious sites upon activation.

DISCUSSION AND CONCLUSION

Our experience highlights the transformative potential of Al-assisted capsule endoscopy in managing obscure GIB. The technology's quick and precise detection was crucial for timely surgical intervention, enabling prompt management and continuation of essential antiplatelet therapy in this high-risk patient.