
Proceedings Paper:
Ching, H.-L., Hale, M.F., Sidhu, R. et al. (6 more authors) (2018) Capsule endoscopy has better diagnostic yield than gastroscopy in recurrent iron deficiency anaemia. In: Gut. BSG 2018, 04-07 Jun 2018, Liverpool, UK. BMJ Publishing Group , A11-A11.

https://doi.org/10.1136/gutjnl-2018-BSGAbstracts.21

CAPSULE ENDOSCOPY HAS BETTER DIAGNOSTIC YIELD THAN GASTROSCOPY IN RECURRENT IRON DEFICIENCY ANAEMIA

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Introduction: Repeat upper gastrointestinal (GI) examination and small bowel capsule endoscopy should be considered in iron deficiency anaemia (IDA) when recurrent/refractory. Magnetically assisted capsule endoscopy (MACE) using a handheld magnet to steer the MiroCam Navi (Intromedic Ltd., Korea) capsule around the stomach followed by passive small bowel transit might satisfy both requirements as a single procedure.

Methods: MACE was performed in patients with recurrent/refractory IDA who were due gastroscopy (OGD). Total (upper GI and small bowel) and upper GI diagnostic yields and patient tolerance of the two modalities were compared. Assuming a diagnostic yield of 25% and 55% for OGD and small bowel capsule endoscopy (SBCE) respectively in recurrent/refractory IDA, n=41 was needed to achieve 80% power and 5% two-sided significance. To allow for withdrawal between procedures, n=50 were recruited. MACE mucosal visualisation was also assessed.

Results: OGD was performed within 2±3 (median±SEM) days of MACE in 49 patients (one failed to attend for OGD; mean age 64 years (±12.6), 39% male). Combined upper and mid-gut examination using MACE and passive SBCE yielded pathology in more patients than OGD alone (32 vs 6 (CI, 0.53±0.16); $P<0.0001$). Comparing only upper GI examination (proximal to D2), MACE identified more total lesions than OGD (83 vs 47; $P<0.001$). If only lesions recognised as sources of IDA are included (oesophagitis, altered/fresh blood, angioectasia, ulcers and villous atrophy), a difference remains (20 vs 10; P=0.004). Small bowel (distal to D2) pathology was present in 24 (49%) patients (angioectasia (n=15), erosions (n=6), polyp (n=1), active bleeding (n=1), small bowel varices (n=1) and a diverticulum (n=1)), considered to causing IDA in 11 (22.4%) patients who had no upper GI pathology. Scores (worst-best=0-10) for pain (0.1 ± 0.3 vs. 2 ± 2.5), discomfort (0.2 ± 0.5 vs. 3.2 ± 3) and distress (0.2±0.5 vs. 2.9±2.9) were all significantly lower for MACE than OGD respectively ($p=0.0001$ for all parameters). There was a significant difference in MACE visualisation scores ((χ^2 = 209.5, $p<0.05$, Kruskal-Wallis H test). Better rank visualisation scores of ≥350 were seen for the greater and lesser curve, anterior and posterior body, antrum, pylorus and D2 while lower for the oesophagus (221.9), GOJ (103.3), cardia (267.3), fundus (188.9) and D1 (197.5).

Conclusions. Combined upper GI and small bowel examination with the MiroCam Navi yields more pathology than OGD alone in patients with recurrent/refractory IDA. MACE also has better diagnostic yield than OGD in the upper GI tract and was better tolerated.