Publication Summary

Clinical Usefulness and Acceptability of Panoramic Capsule Endoscopy Compared with Axial Imaging in Japanese Patients

Hirata I, Tsuboi A, et al. DEN Open. 2025;5:e389.

Objective

To assess the diagnostic effectiveness and patient acceptability of CapsoCam Plus®, a panoramic capsule endoscopy system providing a full 360º panoramic direct lateral view, compared with an axial-view capsule (PillCam SB3) in Japanese patients with suspected small-bowel bleeding (SSBB).

Study Design

This retrospective, single-center study evaluated 930 patients who underwent capsule endoscopy at Hiroshima University Hospital. Thirty-three CapsoCam Plus patients were matched via propensity score to 33 patients who used PillCam SB3. Evaluated metrics included diagnostic yield, visualization of the small bowel and Vater's papilla, transit times, reading duration, and patient experience.

Key Findings

- Full Small-Bowel Visualization: Achieved in 97% of CapsoCam cases vs. 73% for SB3 ($p=0.006$).
- Vater's Papilla Detection: Observed in 82% of CapsoCam patients vs. 15% with SB3 ($p<0.001$).
- Reading Time: Median reading time was longer for CapsoCam (30 min) compared to SB3 (25 min) ($p<0.001$). However, reading efficiency improved with increased reader experience.
- Patient Comfort: 85% of CapsoCam patients reported no or minimal examination distress, and 94% found the capsule easy to swallow.
- P Classification Findings: Detection rates of bleeding sources were comparable between CapsoCam and SB3, particularly for P2 lesions, which indicate high bleeding potential.

Study Limitations

As with many single-center, retrospective studies, certain limitations were noted, including a relatively small sample size of CapsoCam patients and differing time periods between device usage. Additionally, reading times were longer due to the capsule collection process — a consideration primarily relevant in urgent bleeding cases. However, these limitations do not materially impact the study's core findings: CapsoCam demonstrated excellent small-bowel visualization, high patient acceptability, and a diagnostic yield comparable to that of SB3.

Conclusion

CapsoCam Plus demonstrated superior visualization of the small bowel and Vater's papilla, with strong patient tolerability and diagnostic outcomes comparable to those of conventional axial-view systems. Although panoramic image review initially required more time, physician familiarity with CapsoCam's interface and imaging significantly improved efficiency over time. CapsoCam offers a promising alternative for small-bowel evaluation, particularly in non-urgent cases of suspected small-bowel bleeding, and may enhance comfort and access for certain patient populations.

Capso CAM PLUS