

Clinical summary

Timing of video capsule endoscopy relative to overt obscure GI bleeding: implications from a retrospective study

Anupam Singh, MD (Director, Inpatient Gastroenterology, Assistant Professor, University of Massachusetts Medical School).

Purpose

To evaluate the diagnostic yield of video capsule endoscopy (VCE) and rate of therapeutic intervention for overt obscure gastrointestinal bleeding (OOGIB) for inpatients and outpatients with respect to timing of the intervention.

Study design

A retrospective study from a large referral facility for central and western Massachusetts. Five hundred and seven VCEs were performed over a 2-year period from August 2008 to August 2010. Two hundred sixty VCEs were done to evaluate OOGIB and were included in the study. Specifically excluded patients were those with occult OGIB or iron deficiency anemia from the evaluation. There was a large cohort of patients with OOGIB for both inpatient (n=144) and outpatient (n=116) populations. Patients with OOGIB were divided into VCE performed as inpatient or outpatient. The inpatient group was further divided into two cohorts: those who had VCEs performed within 3 days of admission and those who had VCEs performed after 3 days admission.

Key findings

- A positive result was defined as active bleeding, angioectasia, red spot, tumor, ulcer or bleeding outside of the small intestine (stomach/colon).
- Overall yield of VCE was 65.9% (95 of 144) for inpatient population versus 53.4% (62 of 116) for outpatient population.
- Active bleeding was found in 28.9% of the cohort who had VCE placed < 3-days of admission (26 of 90).
- Active bleeding was found in 13.0% of the cohort who had VCE placed > 3-days of admission (7 of 54).
- Detection of active bleeding declined progressively for each day after admission as did the detection of active bleeding and angioectasia.
- Successful therapeutic intervention was performed in the 18.9% of patients (17 of 90) in the < 3-day group vs. 7.4% in the > 3-day group.
 - Therapeutic interventions include: deep enteroscopies, therapeutic EGDs, therapeutics colonoscopies and surgical interventions.

VCE < 3-days resulted in **40%** reduction in hospital stay

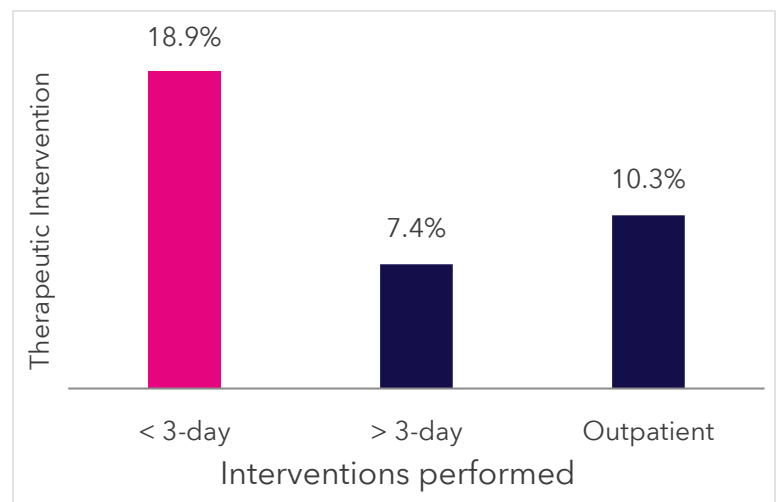
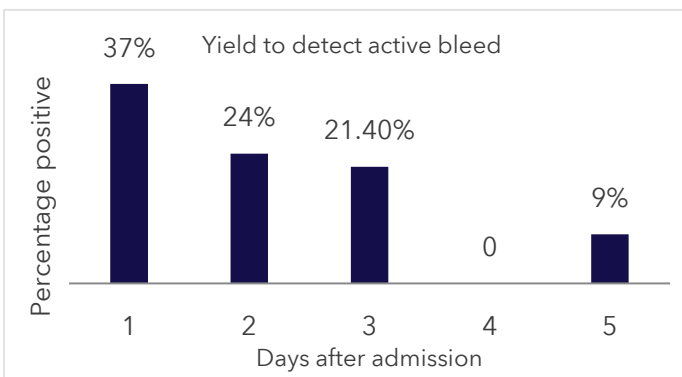
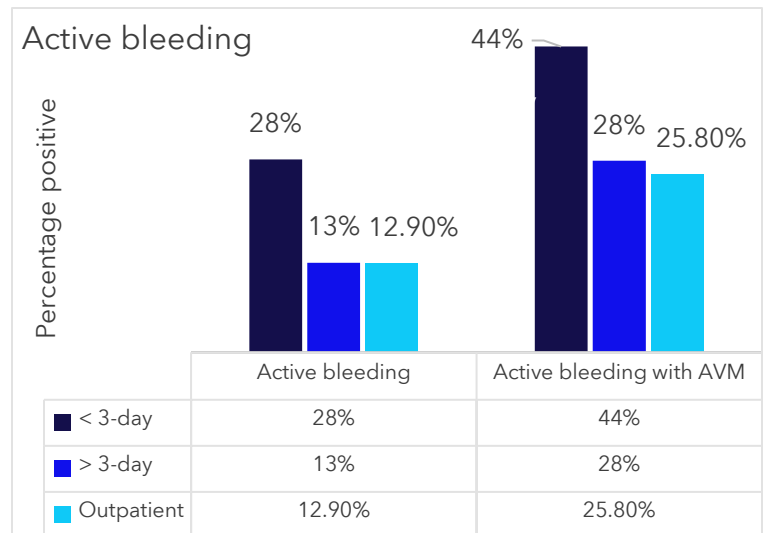
Results

Length of stay for patients in the < 3-day cohort was significantly decreased at 6.1 days versus 10.3 days in the > 3-day group. The study demonstrated a decreased length of hospital stay by approximately 40% if the VCE was placed within the first 3 days of admission for OOGIB. There is very relevant data with the current healthcare environment with emphasis on budgeting and health care dollars. Shortening a hospital stay by 4 days should have significant amount of cost savings.

Conclusion

Early deployment of VCE within 3 days of admission results in a higher diagnostic yield and therapeutic intervention rate and an associated reduction of length of stay. Prospective studies are needed to further examine aggressive deployment of VCE and its ability to improve detection of the bleeding source of OOGIB, intervention rates, length of hospital stay reduction and cost.

| Findings | Inpatient (n=144) | Outpatient (n=116) |
|-------------------|-------------------|--------------------|
| Positive findings | 65.9% (95) | 53.4% (62) |
| Active bleeding | 22.9% (33) | 12.9% (15) |
| Angioectasia | 15.3% (22) | 12.9% (15) |
| Non-small bowel | 9% (13) | 3.4% (4) |
| Ulcer | 11.8% (17) | 12.9% (15) |
| Red spot | 6.25% (9) | 9% (11) |
| Tumor | 0.69% (1) | 1.7% (2) |



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