

What's the Role of Capsule Video Endoscopy in Acute GI Bleeding? and Where it should be

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We read with interest the paper by Meltzer et al. entitled "Video capsule endoscopy in the emergency department: a prospective study of acute upper gastrointestinal hemorrhage"[1]. The authors concluded that video capsule endoscopy is a sensitive test for identifying gastrointestinal hemorrhage in the emergency department. It is well tolerated and could be used by emergency room physicians.

However, based on our 11-year experience of treating hemostasis and upper gastrointestinal bleeding (UGI) in the emergency department, we believe that several points need to be clarified about management of UGI bleeding. The first point is the strategies for initial confirmation of UGI bleeding as well as risk stratification. At present, there are several methods for confirming acute UGI bleeding, such as history taking and notation of the initial presentations, nasogastric tube aspiration, and early endoscopy (within 24 hours after patient admission). Detailed history taking and assessment of clinical symptoms/signs can be done in a timely manner at relatively low cost by experienced emergency medicine physicians. Occasionally, there are cases of patients who have incomplete or unknown history and no obvious hematemesis or melena. In such cases, nasogastric tube aspiration can be performed for determination of UGI bleeding. Acute GI bleeding can be confirmed by either fresh blood aspiration (possible active bleed) or coffee ground aspiration (possible no active bleeding). In some situations, however, dry aspiration or a malpositioned tube can lead to misdiagnosis or inconclusive findings. The convenient procedure is with limited utility [2]. The most important procedure for management of patients with UGI bleeding is endoscopy [3,4], and it should be performed by an experienced endoscopist 6 and 24 hours after the patient has been admitted to the emergency department. It can confirm the bleeding status in the UGI tract, and aid in categorizing patients according to the Forrest classification. In regard to capsule video endoscopy, our experience has not shown it to be more beneficial than traditional endoscopy in treatment of upper GI bleeding, though it can be performed by trained emergency department physicians.

The second point is the timetable for treatment of UGI bleeding. According to the recent clinical guidelines, A UGI bleeding event may be divided into 4 stages: A. resuscitation, risk assessment and pre-endoscopy management, B. endoscopic management, C. pharmacological management, and D. non-endoscopic and non-pharmacological management³. In stage A, the initial resuscitation with stabilization of the patient's hemodynamic status should be completed in the first 2 hours. In this period, airway protection, active fluid resuscitation, and blood transfusion should be completed and pre-endoscopy medications should be administered. After the patient has been stabilized, an emergency therapeutic endoscopy should be performed within 24 hours for risk stratification and therapeutic treatment (stage B). Forrest class Ia, Ib, and IIa peptic ulcer lesions should be treated with hemostatic procedures, such as heater coagulation or clips during endoscopy. Capsule video endoscopy should be performed between 2 and 6 hours after the patient's

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admission and it may take hours to determine the real bleeding condition. A UGI endoscopy should also be performed. For patients with severe hematemesis, vomiting and difficulty swallowing, capsule video endoscopy is not suitable. In cases of emergent UGI bleeding events, capsule video endoscopy can delay endoscopy in the initial 24 hours.

The third point is cost effectiveness assessments. Capsule video endoscopy is more expensive than nasogastric tube aspiration or endoscopy. For confirmation of bleeding, the cost of capsule endoscopy may outweigh any potential benefit. In addition, the randomized direction of capsule video endoscopy may hinder identification of the true bleeding site in the UGI tract, particularly in the stomach.

We agree that capsule video endoscopy is an innovative technique for confirming the origin of UGI bleeding. But, the application of capsule video endoscopy may delay therapeutic endoscopy. Considering risk stratification, therapeutic goals, and cost-effectiveness, we suggest that capsule video endoscopy be used for detection of obscure bleeding in the small intestine in cases of acute UGI bleeding.

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