

Abstract

The small intestine is a part of the gastrointestinal tract in which digestion and absorption of nutrients takes place. The small bowel follows the stomach and is followed by the large intestine, reaching from the pylorus to the valve of Bauhin and is separated into the duodenum, the jejunum, and the ileum.

Capsule endoscopy (CE) has the potential to offer a perfect overview of the small-bowel mucosa and complete visualization of the entire small bowel is achieved in most cases. In this video, there is an overview offered on normal findings in small-bowel CE and typical anatomical landmarks are indicated. This article is part of an expert video encyclopedia.

Keywords

Capsule endoscopy; Endoscopy; Enteroscopy; Landmark; Small bowel; Small-bowel endoscopy; Video.

Video Related to this Article

Video available to view or download at doi:10.1016/S2212-0971(13)70112-2

Technique

Capsule endoscopy (CE).

Materials

- Capsule endoscope, Pill Cam SB2, Given Imaging EMEA, Hamburg, Germany.
- Rapid 7 software, Given Imaging EMEA, Hamburg, Germany.

Endoscopic Procedure

For bowel lavage, it is recommended that the patient drinks approximately 1–2 l of a polyethylene-glycol electrolyte solution before CE that is split into two doses the evening before and the morning of the examination. Simethicone is offered (approximately 80 mg) before capsule ingestion.

The capsule's passage through the intestinal tract can be supervised by online viewing of the endoscopic image in most commercially available CE systems. The capsule recording time is terminated at capsule battery exhaustion and analysis of the video can start thereafter.

Key Learning Points/Tips and Tricks

CE has the potential to offer a perfect overview of the small-bowel mucosa.

This article is part of an expert video encyclopedia. Click here for the full [Table of Contents](#).

Complications and Risk Factors

Capsule retention is an unwanted side effect in CE that is very rare in patients without clinical signs of intestinal obstruction or ileus. In case of doubt of an uneventful examination, testing the passage with use of a patency capsule may be considered.

Alternatives

Double- or single-balloon enteroscopy combining a peroral and transanal approach.

Scripted Voiceover

<i>Time (min:sec)</i>	<i>Voiceover text</i>
0:00	The capsule endoscope is easily ingested by all patients who do not suffer from dysphagia. In case of dysphagia indication for capsule endoscopy must be appraised critically.
0:07	The esophagogastric junction is shortly visualized during the examination in most patients. Pathology that is well demarcated should be described and may need clarification by additional investigations such as esophago-gastro-duodenoscopy.
0:17	The gastric mucosa is incompletely visualized and capsule endoscopy does not substitute for examining the upper gi-tract by flexible esophago-gastro-duodenoscopy.
0:31	Passing the pylorus the capsule takes a quick course through the duodenal bulb and the descending duodenum. The papilla Vateri is sometimes concealed by luminal contents such as bile or may be missed in a quick duodenal passage of the capsule.
0:53	A colon capsule endoscope may offer the advantage of two camera heads, and the papilla of Vateri is

- routinely detected by one of the two cameras. It may be seen at 8 'o clock in this colon capsule video with opening and closing the biliary orifice at the papilla.
- 1:08 The normal small bowel mucosa has an intact villous architecture that is well demarcated at Capsule endoscopy.
- 1:19 With progression of the capsule to the mid and lower third of the small bowel, the villi become shorter and mucosal or submucosal blood vessels may physiologically be seen. A clear-cut transition zone from the jejunum to the ileum is not demarcated by endoscopic means, though. For practical reasons, the small bowel is divided into an upper, middle and lower third and the passage time of the capsule is used for definition.
- 1:36 Hyperplasia of lymphoid follicles is present in many patients in the terminal ileum without any pathological significance.
- 1:42 Change of mucosal appearance and lack of villi denote the passage into the cecum through the valve of Bauhin.
- 1:56 The appendiceal orifice and the valve of Bauhin are more reliably visualized with use of a bidirectional colon capsule endoscope.
- 2:09 Thereby, the valve of Bauhin that is apparent at about 8 'o clock in this video should not be mistaken for a polyp.

Further Reading

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