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ORIGINAL ARTICLE

Historical analysis of experience with small bowel capsule endoscopy in a Spanish tertiary hospital☆

Juan Egea Valenzuela*, Gabriel Carrilero Zaragoza, Elena Iglesias Jorquera, Paula Tomás Pujante, Fernando Alberca de las Parras, Fernando Carballo Álvarez

Unidad de Endoscopia Digestiva y Unidad de Gestión Clínica de Digestivo, Hospital Clínico Universitario Virgen de la Arrixaca, Murcia, Spain

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KEYWORDS
Capsule endoscopy;
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Abstract
Introduction: Capsule endoscopy was approved by the FDA in 2001. Gastrointestinal bleeding and inflammatory bowel disease are the main indications. It has been available in our hospital since 2004.
Methods: We retrospectively analysed data from patients who underwent small bowel capsule endoscopy in our hospital from October 2004 to April 2015. Indications were divided into: Obscure gastrointestinal bleeding (occult and overt), inflammatory bowel disease, and other indications. Findings were divided into: Vascular lesions, inflammatory lesions, other lesions, normal studies, and inconclusive studies.
Results: A total of 1027 out of 1291 small bowel studies were included. Mean patient age was 56.45 years; 471 were men and 556 women. The most common lesion observed was angiectasia, as an isolated finding or associated with other lesions. Findings were significant in up to 80% of studies when the indication was gastrointestinal bleeding, but in only 50% of studies in inflammatory bowel disease. Diagnostic yield was low in the group ''other indications''. No major complications were reported.
Discussion: Small bowel capsule endoscopy has high diagnostic yield in patients with gastrointestinal bleeding, but yield is lower in patients with inflammatory bowel disease.
Conclusions: Our experience shows that capsule endoscopy is a safe and useful tool for the diagnosis of small bowel disease. The diagnostic yield of the technique in inflammatory bowel disease must be improved.

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* Corresponding author.
E-mail address: juanegeavalenzuela@gmail.com (J. Egea Valenzuela).

PALABRAS CLAVE
Cápsula endoscópica;
Hemorragia digestiva de origen oscuro;
Enfermedad inflamatoria intestinal;
Angioectasia;
Intestino delgado

Análisis histórico de la experiencia en cápsula endoscópica de intestino delgado en un hospital terciario español

Resumen
Introducción: El uso de la enteroscopia con videocápsula fue aprobado por la FDA en 2001. La hemorragia digestiva y la enfermedad inflamatoria intestinal son sus principales indicaciones. En nuestro centro se realiza desde 2004.
Material y métodos: Hemos recogido de forma retrospectiva los pacientes tratados mediante cápsula de intestino delgado desde octubre de 2004 hasta abril de 2015. Las indicaciones se han dividido en grupos: hemorragia digestiva de origen oscuro, tanto oculta como manifiesta; enfermedad inflamatoria intestinal; otras indicaciones. Los hallazgos se han dividido: lesiones vasculares; lesiones inflamatorias; otras lesiones; estudios normales; estudios no concluyentes.
Resultados: De un total de 1.291 estudios se ha incluido 1.027 en el análisis. La edad media es 56,45 años, con 471 hombres y 556 mujeres. La enfermedad más frecuentemente observada fueron las lesiones vasculares, asociadas o no a otras lesiones. Cuando la indicación era una hemorragia digestiva, el impacto diagnóstico fue del 80%. En la enfermedad inflamatoria esta cifra solo alcanza el 50%. El rendimiento diagnóstico es mucho menor en el grupo de «otras indicaciones». No se han registrado complicaciones mayores.
Discusión: La cápsula de intestino delgado tiene un alto rendimiento diagnóstico en los casos de hemorragia digestiva; el número de estudios con hallazgos positivos es menor en los de enfermedad inflamatoria intestinal.
Conclusiones: Se trata de una modalidad diagnóstica segura y de gran utilidad para el diagnóstico de enfermedad del intestino delgado, aunque se precisa mejorar el índice de sospecha en la enfermedad inflamatoria intestinal.

Introduction

The first mention of capsule endoscopy (CE) in the scientific literature appears in May 2000 in the journal *Nature*.[1] In this short article, Iddan described the development of an ingestible wireless capsule capable of capturing images of the gastrointestinal (GI) mucosa while propelled by peristalsis through the gastrointestinal tract, and communicated the early experiences of his group in testing this device in humans Before long, the first studies were published evaluating the safety and efficacy of the procedure, and comparing it with other techniques (endoscopic and radiological) for the diagnosis of small bowel (SB) pathology.[2–5]

From the start, the most important and widely used indication for CE studies has been obscure gastrointestinal bleeding (OGIB); the first series were published between 2002 and 2004.[5–10] Other, less common indications have also been established for CE, including inflammatory bowel disease (IBD), neoplastic disease, or coeliac disease.[11–14] These indications and their corresponding recommendations have been included in clinical practice guidelines (and updates) and consensus documents issued by scientific societies such as the European Society of Gastrointestinal Endoscopy (ESGE), the American Society of Gastrointestinal Endoscopy (ASGE) or the European Crohn's and Colitis Organisation (ECCO).[15–20]

In 2006, video capsule endoscopy took a giant leap forward with the introduction of colon capsule endoscopy (CCE). The Eliakim group published a series of 91 patients in which the usefulness and safety of this new device in detecting colonic disease was communicated.[21] This technology was initially recommended for patients with previous incomplete colonoscopy, or those that were contraindicated or poor candidates for conventional endoscopy.[22] However, the number of potential indications for CCE has since been extended, and studies in the benefits of the technique in colorectal cancer screening, follow up of patient with IBD, and even in paediatric patients 23–26, have been published.[23–26] To date, one of the last frontiers for video capsule studies is the possibility of exploring the entire gastrointestinal tract, or at least the small and large bowel, with a single device in a single procedure.[27]

The first SB CE study in our hospital was performed in 2004, making ours one of the first centres to incorporate this technology in Spain. During the early years, a very limited number of procedures were performed, mostly in patients with OGIB.

Since then, however, the number has increased exponentially. Initially, studies in patients with suspected Crohn's disease (CD) were rare, but this indication has increased considerably since 2007, and currently accounts for about half of the procedures performed in our department. CCE was only recently introduced in our hospital, and therefore