Wireless Capsule Endoscopy – Pros and Cons

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In their article on wireless capsule endoscopy in this issue of IMAJ [1], Dr. Fireman and collaborators, who reviewed the literature on the subject, concluded that the capsule "is likely to become the front-line procedure in the detection of small bowel diseases." However, the discussion ignores most of the critical issues related to the capsule and to small bowel investigation.

The authors cited a study where capsule endoscopy detected more lesions than did other modalities. The clinical significance of these lesions and the impact on outcome is not clear. There is no information about the outcome of such patients: did they undergo surgery; if so, what were the findings during surgery and during the post-operative follow-up? There is no discussion on the failure of the capsule to localize lesions within the small intestine.

A detection of arteriovenous malformation by the capsule will require intraoperative enteroscopy for better localization and resection. However, were we to use an intraoperative enteroscopy, the need for the capsule would be unclear since one could move directly into intraoperative enteroscopy. Intraoperative enteroscopy is an accepted technique in patients with serious gastrointestinal bleeding, and the use of capsule endoscopy would merely increase the cost with no additional benefit. The time for reading the examination of the capsule is between 1 and 2 hours. This is quite a heavy load for the gastroenterologist. It will limit the number of examinations possible and will incur considerable costs, thus precluding more extensive use of the capsule.

Nonetheless, capsule endoscopy is a technological breakthrough that allows us to directly study the entire small intestine. The armentarium available today for studying the small intestine is limited. A barium study of the small bowel is not sensitive enough, especially for mucosal lesions. Push-enteroscopy is invasive and is associated with discomfort and occasionally complications. It investigates only the proximal portion of the small intestine. The endoscopic capsule, however, provides an excellent view of the small intestine and is safe and well tolerated. Mucosal lesions such as erosions, ulcers, and atriovenous malformations can be seen clearly. In the case of obscure gastrointestinal bleeding, a negative study will justify a repeated upper and lower gastrointestinal endoscopy before we can consider intraoperative endoscopy.

At the present time however, capsule endoscopy cannot replace any of the other investigative procedures of the small bowel. Investigation of the small intestine should include enteroscopy, X-ray studies, and capsule endoscopy. The number of capsule studies performed worldwide is still small and it is too early to appreciate the sensitivity and specificity of this procedure. The limited information currently available, however, is quite promising.

References

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