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EDITORIAL

Usefulness of capsule endoscopy in the diagnosis of gastrointestinal graft-versus-host disease☆

Utilidad de la cápsula endoscópica en el diagnóstico de la enfermedad injerto contra huésped gastrointestinal

The small bowel (SB) is the organ most commonly affected by gastrointestinal graft-versus-host disease (GVHD). Its clinical, anatomic, and endoscopic presentation is heterogeneous and often nonspecific, complicating its diagnosis. Capsule endoscopy (CE) has been described as a useful and complementary tool to conventional endoscopic examination in those cases,[1] with a diagnostic yield of 54%.[2] However, data in the literature are scarce and the diagnostic accuracy of the technique is not well defined.

In the present issue of the *Revista de Gastroenterología de México*, Blanco-Velasco et al.[3] present an observational study, in which they analyze the usefulness of CE in a retrospective cohort of 21 patients. They concluded that CE had high sensitivity, a positive predictive value, and moderate agreement with the histopathologic findings.

As was the case in similar previously published studies, the authors utilized histopathologic study as the gold standard. It should be pointed out that endoscopically obtained histologic samples are not always reliable. The reasons are numerous: the patchy presentation of the disease, its nonspecific endoscopic appearance that leads to taking random biopsies, rapid lesion progression, or location that cannot be reached by gastroscopy or ileocolonoscopy. As a result, conventional endoscopy with no biopsies has a low negative predictive value and its agreement with CE is low.

The authors described high sensitivity and specificity values of 88 and 75%, respectively. Low specificity can lead to a higher false positive rate. In clinical practice, that can be due to the fact that a CE is considered positive, based on a compound criterion that integrates different types of inflammatory lesions with different grades of severity. In such cases, it would be interesting to know if the lesions were patchy or appeared exclusively in the jejunum, with no terminal ileum involvement, given that ileocolonoscopy provides greater diagnostic yield than gastroscopy. In fact, duodenal lesions seen in CE have been shown to predict a positive histologic result that was not detected through gastroscopy,[2] suggesting that the correlation between the two techniques is not good, most likely due to the different lesion locations. In addition, the presence of those lesions could have a prognostic effect. A recent study has shown an association between the presence of inflammatory lesions in CE (28 vs. 4%; $p < 0.01$) and GVHD-associated mortality.[4] Nevertheless, having a test with high diagnostic yield, focused on sensitivity, appears to be more relevant in those patients. In that respect, the authors reported a greater diagnostic yield in CE than in conventional endoscopy with no biopsy (85 vs. 66%).[3]

Another important aspect described in the literature is the gastric and intestinal transit time of the CE, as well as the complete examination of the SB in those patients. The authors reported complete SB visualization with CE in 81% of the cases, which could have an impact on reducing the sensitivity of the technique, in distal forms of the disease. Furthermore, 24% of the patients required gastroscopy to release the capsule into the SB because it was retained in the stomach. That fact could also theoretically increase the false negatives in duodenal forms of GVHD, if the capsule is directly placed in distal parts of the duodenum or in the proximal jejunum through endoscopy. Thus, the recommended practice could be early endoscopic placement of the capsule in patients in whom delayed passage into the SB is detected, releasing it in the duodenal bulb or in the second part, at most, of the duodenum.

The results reported by Blanco-Velasco et al.[3] significantly contribute to consolidating the scientific evidence that quantifies the accuracy of CE in GVHD, but they also pose new questions. Integrating CE into the diagnostic algorithm

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for the early detection of GVHD is most likely the next step in clinical practice, regarding those patients.[5] According to their results and previous studies in the literature, CE could be considered the new gold standard in the diagnosis of mild forms of GVHD, or in forms of proximal involvement, especially when the lesions are more apparent (multiple ulcers or stricture), regardless of the histologic study. It is also important to define the ideal time for carrying out CE, to increase its sensitivity, given the highly dynamic nature of GVHD, which can lead to false negatives. Thus, as the authors suggest, CE can result in an earlier diagnosis than that obtained through histopathologic study, which could have a positive therapeutic impact in the patients that often present with severe disease. Likewise, prospective studies that analyze not only the technical parameters of CE, but also its impact on the course of the disease, are necessary. Finally, the unification of the diagnostic criteria of GVHD through CE is increasingly becoming a priority, so that in the near future, endoscopic patterns characteristic of the disease can possibly be identified through the use of artificial intelligence.

In conclusion, the study discussed herein confirms the promising role of CE in patients with gastrointestinal GVHD and opens new paths for defining the precise part the technique plays in the diagnostic-therapeutic algorithm for those patients, along with determining when its results prevail over those of histopathologic analysis and the ideal time for its performance.

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Conflict of interest

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