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EDITORIAL

A new open door for endoscopic ultrasound (EUS); the colon

Endoscopic ultrasound (EUS) is a minimally invasive procedure with the ability to evaluate both gastrointestinal and extra-intestinal diseases (1,2). The use of high-frequency sound waves provides with the capability for obtaining detailed images of the lining and walls of our digestive tract and nearby organs such as the pancreas, the liver, bile system, suprarenal glands, the lung, and lymph nodes from both mediastinum and intra-abdominal, among others (1,2). In fact, EUS is considered the best tool, for instance, in the evaluation of chronic pancreatitis (3), pancreatic solid and cystic lesions (4), the staging of esophageal and gastric cancer, the evaluation of common bile duct and gallbladder or for the evaluation of mediastinal lesions like lung cancer (5). Another big advantage of EUS is the possibility of performing a guided tissue acquisition in many different indications. In this setting, EUS guided tissue acquisition, by using the different linear echoendoscopes available today, has a very high diagnostic accuracy, ranging from 60 to 90% (6,7). EUS can also be used for imaging of the rectum and colon. In this context, EUS is mainly use for staging rectal or anal cancer (8,9), also for the evaluation of the integrity of anal sphincters, or even for the evaluation of fistulae that may be developed at this site (10). However, overall indications related to colo-rectal diseases, as compared to the large number of indications previously commented, are rather low.

The study by Castro-Poças FM et al. (11), published in this issue of *The Spanish Journal of Gastroenterology* is of real interest, since it provides with important information regarding the characteristics of the colon wall. Authors define the morphology, based on the EUS evaluation of the layers of the colon wall, at different sites, and by using different types of probes and miniprobes. By using higher frequency in the probes, authors were able to identify more number of layers, but overall they have been able to define and characterize the colon wall. One of the strengths of this study is that authors have tried to standardize the definition and description of the colon wall, since they have compared their finding with the other data reported in the literature (12,13), with the aim to avoid further bias. Also important, there is a nice definition of the vessels located at submucosa. Finally, authors also provide a nice description about what to expect regarding peri-intestinal lymph nodes.

All this information about the complete characterization of the colon wall can be considered of tremendous interest. Based on this data, we can open the door of EUS in the evaluation on colon diseases. We can provide some examples, trying to highlight the possibilities of this technique in certain clinical settings. One of the most relevant diseases of the colon is the inflammatory bowel disease, both ulcerative colitis and Crohn´s disease. Up to now, certain studies have tried to evaluate the usefulness of EUS in this setting (14-17). It is well known, that EUS can be essential in the evaluation of perirectal disease, in the context of Crohn´s disease. Nevertheless, if we combine the information reported with the morphology of these two very complex entities, EUS may provide information in a couple of setting, which may have a direct impact in the management of the disease. For instance, since we can evaluate the morphology of the colon wall, and we are aware of the differences in the affection of the colon wall in both diseases, one of the possibilities is that EUS can help to differentiate between ulcerative colitis and Crohn´s disease, whenever this doubt is present in the clinical setting. Even more, in those complex cases of Crohn´s disease, by performing a EUS of the colon will provide relevant information of the fistulous disease (and evaluate the presence of abscess) or characterize the stenosis that can be associated with the disease (10).

Another point of interest regarding this manuscript is that authors have defined the characteristics of normal colon, at different locations, as previously commented, as well as defining vascularization and lymph nodes. Based on that, we can hypothesize, and this can be a second step in upcoming studies, that EUS of the colon may be used for the local (and regional) staging of colon cancer, which is not an absolute indication nowadays, although it has been tested previously (9,12). However, this approach clearly deserves further studies, since we should establish whether this new option for staging may change or not the therapeutic approach of these patients, probably analyzing whether information provided is more accurate and useful to the one that can be obtained from the standard CT scan. Nevertheless, in this context, we may highlight the possible usefulness of EUS in the evaluation of flat polyps or lesions, that maybe suitable for endoscopic dissection (18,19). It is not well establish if performing an EUS can guided this therapeutic option, however, it seems logical that performing a complete evaluation of this lesions, by characterizing their wall, the vascularization of the submucosa and analyzing the presence of lymph nodes, will improve the accuracy and overall results of this technique.

Finally, other lesions, suitable to be evaluated by EUS, are the subepithelial tumors. These type of tumors are a clear indication for EUS when they are located at esophagus, stomach or duodenum. However, there are few data published in the literature, about the usefulness of EUS when they are present at the colon. This limitation is clearly related to the lack of information regarding

the possibility of performing a EUS of the colon, and to the lack of knowledge about the characteristics of the colon wall. First step to clarify this option has been provided by Castro-Poças FM et al. (11).

Summarizing, authors have provided key information about the characteristics of colon wall, and also of surrounding structures, like lymph nodes, thus opening the door to EUS in different and very important colon diseases (like inflammatory bowel disease, and all different types of colon lesions).

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