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TURKISH INFLAMMATORY BOWEL DISEASE SOCIETY RECOMMENDATIONS ON SELECTED TOPICS OF CROHN'S DISEASE

TÜRK İNFLAMATUVAR BARSAK HASTALIKLARI DERNEĞİNİN CROHN HASTALIĞI İLE İLGİLİ SEÇİLMİŞ KONULARDA ÖNERİLERİ

What is the most accurate method for the assesment of small bowel in involvement in Crohn's disease?

Crohn hastalığında ince barsak tutulumunun değerlendirilmesinde en doğru yöntem nedir?

Key words: Crohn's disease, diagnosis, small bowel involvement

Anahtar kelimeler: Crohn hastalığı, tanı, ince barsak tutulumu

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INTRODUCTION

Crohn's disease (CD) is an inflammatory intestinal disease which may affect the overall gastrointestinal tract either in the endoluminal or the extraintestinal region. Conventional endoscopic examinations used in the diagnosis of CD may not always provide enough data about the localization and the extension of the disease (1, 2). As stated in the CD guidelines of ECCO (European Crohn's & Colitis Organization), the involvement area and the extension of the disease must be determined in order to plan an optional treatment (3).

Today, barium enema of small bowel (SBFT: Small Bowel Follow Through, SBE: Small Bowel Enema) is the most common, inexpensive and easily accessible radiologic method (4-6). Although it is possible to detect the superficial changes of intestinal mucosa with barium enema, success of primarily fluoroscopic examination depends on the operator and the quality of the assessment. It is not possible to assess luminal thickness and changes in the vascularity; also it may not be possible to provide information about the extraintestinal involvement of CD via fluoroscopic studies (7, 8).

Abdominal ultrasonography is not a good imaging method for demonstrating the extension of the small bowel involvement in CD. However, data on small bowel involvement in CD may be obtained in patients who are young and sonographically appropriate. Further data on small bowel involvement in CD can be obtained with Doppler or contrast powered ultrasonographic methods. Advantages of this method is the easy application and being a radiation free procedure. However, success of the process depends on the operator and the quality of the device (9-12).

The sensitivity and the specificity of MR Enterography (MRE) and CT Enterography (CTE) methods are higher than barium enema in demonstra-

Table 1. Types of the studies analyzed

Type of the study	The number of studies
Prospective	13
Prospective comparative	17
Case control	1
Retrospective	5

Table 2. The distribution of the methods in the analyzed studies.

Radiologic and endoscopic	Number of studies
Barium enema of small intestines	25
MR Enterography & MR Enteroclysis	14
BT Enterography & BT Enteroclysis	9
Capsule endoscopy of small intestine	9
Enteroscopy	6

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Table 3. Detecting the sensitivity of radiologic and endoscopic methods in the diagnosis of Crohn's disease.

Number of studies	Imaging techniques	Sensitivity
36	Barium enema of small intestines	80%
	MR Enterography & MR Enteroclysis	92%
	BT Enterography & BT Enteroclysis	91%
	Enteroscopy	64%
	Capsule endoscopy of small intestine	85%

Table 4. The sensitivity and the specifity of the imaging methods compared with the capsule endoscopy of small intestine.

The number of the studies	Imaging methods	Sensitivity	Specificity
36	Barium enema of small intestines	78%	84%
	MR Enterography & MR Enteroclysis	88%	86%
	BT Enterography & BT Enteroclysis	91%	83%
	Enteroscopy	20%	100%

ting the small bowel involvement in CD (13, 14). MRE and CTE can provide information about disease activation (15). In addition, it is possible to detect extraintestinal symptoms of the disease such as abscess, fistula, sacroilitis and renal calculi with cross-sectional imaging techniques such as MRE and CTE (16).

Nowadays, Small Bowel Capsule Endoscopy (SBCE) has become a popular imaging technique for the evaluation of small bowel involvement in CD. The sensitivity and the specificity of SBCE in determination of small bowel involvement in CD, is higher than either barium enema or MRE and CTE (16-19). However, the risks of retention and high cost are the restrictive factors for the use of SBCE.

Data on the diagnostic value of the enteroscopic methods (single-balloon, double balloon, push enteroscopy, intraoperative enteroscopy, etc) for the evaluation of the small bowel involvement in CD are not sufficient. Difficulty of the process, sedation related problems, adhesions or strictures related with CD, restricted the application of enteroscopic procedures. However, it should be reminded that enteroscopy has advantages such as collecting biopsies for histopathological diagnosis, and also intervention for bleeding or removal of foreign bodies (16, 20, 21).

METHODS

As a result of 3e systematic literature search, 36 studies were found on radiologic and endoscopic techniques evaluating intestinal involvement in CD. While studies were evaluated, the determination of sensitivity and the specificity of techniques for the assessment of small bowel involvement in CD and also the determination of diagnostic priorities were aimed. Types of 36 analyzed studies were given in table 1 and distribution of imaging techniques evaluated in these studies were given in table 2 (Table 1 and Table 2).

RESULTS

The sensitivities of the methods for the assessment of known small bowel involvement in CD were found to be 80% for barium enema of small bowel, 92% for MRE, 91% for CTE, 64% for enteroscopy and 85% for SBCE, (Table 3). Investigating the ECCO data and metaanalysis studies, SBCE is predicted to have the highest diagnostic power to detect the small bowel lesions of CD (3, 16, 19). Comparing with SBCE, the sensitivity and the specificity of other techniques were found to be 78% and 84% for barium enema of small bowel, 88% and 86% for MRE, 91% and 83% for CTE and 20% and 100% for enteroscopy, respectively (Table 4).

CONCLUSION

Given that 30% of CDs are localized in the small bowel, it may not be always possible to detect the involved region and the extension via the traditional diagnostic methods, therefore advanced diagnostic methods are required. In ECCO recommendation on CD treatment, it is noted that efficient treatment options should be used in the early period for the achievement and maintenance of remission as well as the prevention of complications, particularly in patients with extensive small bowel disease. Therefore, in patients diagnosed with CD via ileocolonoscopic and histopathologic methods, examination with imaging techniques is necessary in order to determine the localization and extension of disease and to make the correct deci-

sion for the appropriate treatment. Based on these results national recommendations for the assessment of small bowel involvement in CD are seen in the box.

Recommendation:

Although capsule endoscopy, MRE and CTE methods have higher diagnostic power, in the circumstances of our country, methods for investigation of small bowel involvement in patients diagnosed with Crohn's disease should be as follows:

Primarily, small bowel assessment should be performed using the data of barium enema in combination with USG; if clinical suspicion still exists even though pathology is not detected in these examinations, next step should be MRE or CTE investigation. Decision of MRE or CTE should be determined according to the availability of the method and the experience of the department.

If sufficient data could not be obtained with the techniques mentioned above, capsule endoscopy or enteroscopy should be used according to the availability of the method and the experience of the department. ***(EL 5, RG D)***

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