Radiologic Differences Between Ileocecal Tuberculosis and Crohn’s Disease

II. Diagnosis of Crohn’s Disease

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In this, the second of three articles concerning radiologic differences between ileocecal tuberculosis and Crohn’s disease, we report radiologic observations on patients with Crohn’s disease. The differential diagnosis of the two conditions is considered in the following paper.

MATERIAL

The study reported in this paper is based on radiologic studies on 52 of 106 patients with Crohn’s disease who were seen at the University Hospitals of Louvain and in private practice. In these 52 patients, X-ray studies conclusively demonstrated primary lesions of Crohn’s disease. Many of the 54 patients not reported here were operated upon for acute appendicitis or bowel obstruction before complete radiologic diagnosis could be made. Others were seen for the first time during a relapse, and X-ray films of the primary lesion therefore were not available. Patients having segmental colitis with minimal injury of the ileum were not included in the series.

In the 52 patients studied, the distribution of the lesions was as follows: 43 isolated terminal ileal localizations; 3 instances of diffuse jejuno-ileitis; and 6 instances of ileocolitis.

TECHNIQUE

For study of the terminal ileum, barium transit seems to be superior to the opaque enema. The filling of the terminal ileum is of much longer duration, the walls are more clearly defined, and the motility may be observed in more favorable physiologic conditions. Barium-transit examination also supplies more information as to the existence of functional disorders and/or associated lesions in the proximal bowel loops.

The barium enema, on the other hand, is necessary to determine the existence of an intrinsic (ileocolitis) or an extrinsic (pericolitis) lesion.
Many methods for administration of the contrast medium to improve the results of radiologic examination of the terminal ileum have been described. Among these, administration of the barium suspension in fractionated doses or in very small amounts may be mentioned. Many of these methods are impractical in clinical work for one reason or another. For the initial transit examination, we prefer the method that consists in administering in a single dose a rather large quantity of barium suspension (200 ml.). Immediately after the ingestion, the patient is placed in the prone position, and the best oblique position is determined by a brief fluoroscopic examination. The patient is then asked to remain in this position for 15–20 min.

The regular evacuation of the stomach in this position results in a homogeneous opacification of the entire small intestine. With the contrast medium we use (Barium Wander), employed as described above, the cecum is rapidly reached. Films are taken at the fifteenth, thirtieth, and sixtieth minute. Two more X-rays are taken 5 min. after the third film. These films are developed immediately and examined by the radiologist. They usually show the entire small intestine. If a lesion is suspected, the involved region is more extensively explored, and selective compressions are applied. We shall return to the use of selective compression in these cases below. A perfect delineation of the organ cavity is necessary for the analysis of organic, parietal, and even mucosal alterations. This is obtained by sufficient filling with a moderately thin barium suspension in combination with progressive compression. With this technic, very small parietal irregularities can be visualized and accurately evaluated better than with the use of methods that do not produce sufficient delineation. X-ray films made in this way permit an analysis in which the lesions found on operation correlate precisely with the radiologic findings.

**THE SMALL BOWEL IN CROHN’S DISEASE**

**Radiologic Findings**

In analyzing the morphologic alterations of the small bowel in advanced cases of chronic enteritis, we have been impressed by the fact that in most cases the transition between the grossly pathologic segment and the morphologically normal ones is not abrupt. There is an actual grading of the morphologic alterations, the most advanced lesions usually, but not always, being located in the distal part of the injured loop.

Three types of segmentary alterations have been described. The juxtaposition of these lesions on a single intestinal loop seems to us one of the