Gastrointestinal Biopsy Findings of Autoimmune Enteropathy
A Review of 25 Cases


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Autoimmune enteropathy (AE) is an uncommon disorder characterized by:

- protracted diarrhea,
- small intestinal villous atrophy,
- lack of response to dietary exclusion,
- evidence of autoimmunity (in the form of circulating autoantibodies to gut epithelium and/or associated autoimmune diseases)
• AE is a primarily pediatric disease, but can occur in adults as well
• Two syndromic forms of AE:
  - the immune dysregulation, polyendocrinopathy, enteropathy, and X-linked (IPEX) syndrome
  - the autoimmune polyglandular syndrome (autoimmune phenomena, polyendocrinopathy, candidiasis, and ectodermal dystrophy syndrome)
AIMS

• To better understand the spectrum of histopathologic features of AIE in the tubular gut
• They described the gastrointestinal biopsy findings in 25 patients, which represents the largest series of AIE patients reported to date.
Duodenal/ileal biopsies were classified on the basis of the **predominant histologic pattern** as:

(1) **Active chronic duodenitis/enteritis (ACD):** villous blunting, **expansion of the lamina propria** by mixed but predominantly mononuclear inflammation (consisting of lymphocytes, plasma cells, and eosinophils), and **neutrophilic cryptitis** (with or without crypt abscesses); with or without increased apoptosis in the crypt epithelium.

(2) **Celiac disease-like (celiac-like):** villous blunting and marked increase in intraepithelial lymphocytes in surface epithelium (>40 IELs/100 enterocytes)

(3) **GvHD-like:** villous blunting and increased apoptosis in crypt epithelium (>1 apoptotic figure *per 10 crypts*), with or without crypt dropout, with **minimal inflammation**.

(4) **Mixed/no predominant pattern:** admixture of 2 patterns or insufficient features to qualify for any of the above 3 patterns.
RESULTS
Histopathologic findings in the duodenum

- CAD (chronic active duodenitis): 52%
- Celiac disease-like pattern: 21%
- GVDH-like pattern: 17%
- Mixed/no predominant pattern: 13%
RESULTS

Histopathologic findings in the ileum: chronic active enteritis
Histopathologic findings in the jejunum: chronic active Jejunitis
Absence of an epithelial cell subtype: rare

Histopathologic Findings in Other Sites in the Tubular Gut
• Stomach: abnormalities in 86%
• Colon: abnormalities in 64%
• Esophagus: abnormalities in 28%

Histopathologic Findings after treatment
• Complete histologic remission (47%)
• Partial histologic response (26%)
• No or minimal histologic response (26%)

Not consistent correlation between histologic and clinical response
• Two key observations:

1) the most common pattern of injury on small intestinal biopsy is an *Active Chronic Enteritis* with moderate to severe villous blunting and prominent neutrophilic inflammation

2) histopathologic abnormalities at other sites in the GI tract are exceedingly common
• Autoimmune enteropathy (AE) remains a diagnostic challenge for pathologists
• Celiac disease represents an important differential diagnostic consideration (especially in case of celiac disease-like histology): the two conditions (AE and celiac disease) may be indistinguishable by histology alone
• Prominent neutrophilic inflammation and histopathologic abnormalities outside the small intestine may facilitate recognition of AE by the pathologist.
• Correlation with clinical and laboratory parameters is of critical importance to reach the correct diagnosis.