Anal Skin Tags in Inflammatory Bowel Disease: New Observations and a Clinical Review

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Background: The association between intestinal Crohn's disease (CD) and specific perianal abnormalities called anal skin tags (AST) has been recognized but not well defined. Skin tags have been classified into 2 types: 1) raised, broad, or narrow, single or multiple, soft or firm, and painless, often referred to as "elephant ears"; or 2) edematous, hard, often cyanotic, tender or not, and typically arising from a healed anal fissure, ulcer, or hemorrhoid. The aims of this study were to i) better characterize those skin tags identified by the term "elephant ears" and differentiate them from other types of AST; ii) compare their prevalence in patients with CD and ulcerative colitis (UC); iii) observe the relationship of the skin tags to the location of the primary bowel disease; and iv) to discuss the value of these typical AST in making an early diagnosis of CD.

Methods: Photographs of all AST were taken when present at lower endoscopy in 170 consecutive patients with inflammatory bowel disease (IBD) seen in the private office of the senior investigator and Lenox Hill Hospital. Data was gathered with respect to major differences between the 2 types of AST. The location of the primary bowel disease for these patients was obtained from an extensive IBD computer database and review of details from charts.

Results: Specific features of AST were described and served to favor type 1 versus type 2. AST were found more frequently in patients with CD (75.4%) as compared to patients with UC (24.6%), confirming previous observations that they are more diagnostic of CD ($P = 0.005$). Subset analysis revealed a trend with a greater incidence of AST in patients with colitis (46.9%) as compared to patients with ileitis (36.7%) and ileocolitis (16.3%) ($P = 0.067$).

Conclusions: We provide photographs with the most characteristic features of AST and attempt to separate elephant ears (type 1) from less typical AST (type 2) in CD. Our study confirms previous reports that AST are more commonly found in association with CD as compared with UC and more so in the presence of disease limited to the colon as compared to disease elsewhere in the bowel. Our observations support the diagnostic significance of AST heralding the diagnosis of CD when they are discovered on physical exam, especially in young people with diarrhea, abdominal pain, and/or growth retardation.

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Key Words: anal skin tags, elephant ears, IBD, Crohn's disease, ulcerative colitis, other perirectal manifestations

The association between intestinal Crohn's disease (CD) and characteristic anal skin tags (ASTs) has been recognized but not well defined. Characteristic morphologic features of AST were studied. An attempt was made to divide them into 2 types (Table 1; Fig. 1A,B): 1) those often referred to as "elephant ears," and 2) those typically arising from a healed anal fissure, ulcer, or hemorrhoid.[1] Type 1 are more typically characteristic of CD in contrast to ulcerative colitis (UC), although type 2 may also be seen in either disease or may overlap in appearance with typical painless external hemorrhoids, prolapsed internal hemorrhoids, and occasionally with type 1 whether occurring in association with CD or not.[1,2]

Our purpose was 1) to better characterize those AST identified as "elephant ears" typically associated with CD; 2) to differentiate them from other AST more likely to have arisen from fissures, ulcers, or hemorrhoids; 3) to compare their prevalence in patients with CD and UC; 4) to compare location of the primary bowel disease in patients with AST; and 5) to discuss the value of these typical AST in making the early diagnosis of CD.

MATERIALS AND METHODS

This study had the approval of the Institutional Review Board (IRB) at Lenox Hill Hospital. AST were photographed in 170 consecutive patients with inflammatory bowel disease (IBD) and AST in the course of 1 year and details were collected from our database and their charts to determine diagnosis (CD versus UC) based on clinical, endoscopic, radiological, and histological features independent of the presence of skin tags. Photographs of anorectal protrusions suggesting AST were taken at colonoscopy or flexible sigmoidoscopy by the senior investigator (B.I.K.) and then were gathered and subsequently reviewed as a group to better determine specific morphologic characteristics. The differential diagnosis of

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TABLE 1. Characteristic Features of Anal Skin Tags of Crohn's Disease

Type 1 "Elephant Ears"	Type 2 Those Arising from Healed Fissures or Ulcers or Hemorrhoids
Flat or round	Edematous
Soft/compressible	Usually hard
Flesh-colored +/− waxy surface	Red, blue, or cyanotic
Single or multiple	Single or multiple
Varying sizes	Usually larger in size than type 1
Painless	Often tender or painful
Smooth	More likely to have irregular surface
No suggestion of hemorrhoids	Often associated with hemorrhoids

AST made throughout this study was initially made by the senior investigator. Close attention was paid to better characterize the morphologic characteristics of AST associated with CD ("elephant ears") as compared to those associated with fissures, fistulas, ulcers, hemorrhoids, and non-CD tags. AST of CD can be broad or narrow, single or multiple, small or large, and usually have a smooth surface. These type 1 AST are commonly referred to as "elephant ears." They are generally flesh-colored and painless, may have a cyanotic appearance, may or may not be painful, and may have associated bleeding, are not associated with rectal bleeding, and are mostly associated with CD. The other type of AST, called type 2, are typically the result of a healed anal fissure, ulcer, or hemorrhoid which may also be associated with CD. The presence of ASTs was recorded for each patient and their features noted from the photographs taken prospectively. The final decision was based on a review of the photographs by a

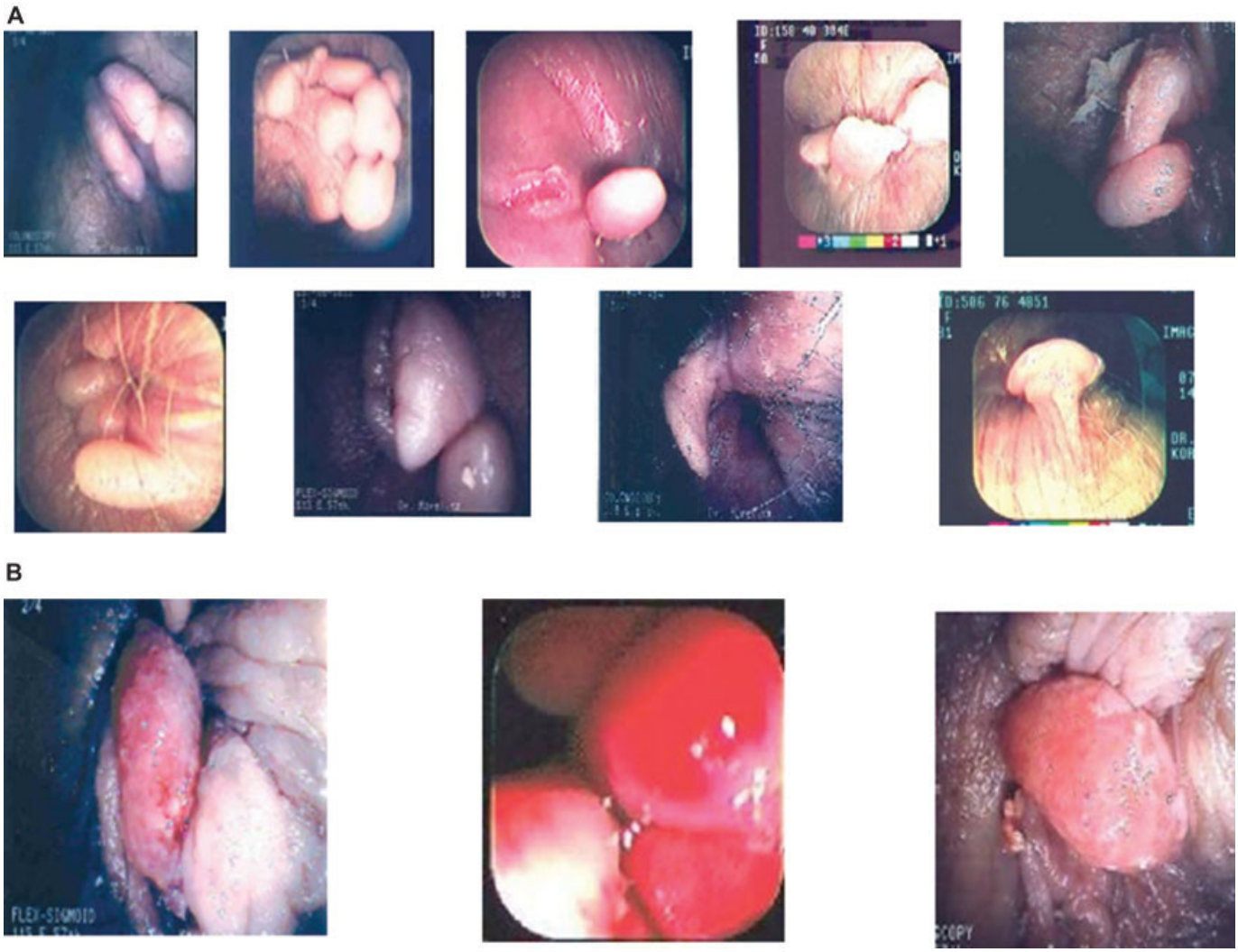

FIGURE 1. (A) Typical anal skin tags ("elephant ears"). (B) Typical anal skin tags (type 2).

TABLE 2. Patients with Anal Skin Tags ("Elephant Ears"): Ulcerative Colitis Versus Crohn's Disease ($n=65$)

	Anal Skin Tags
Crohn's disease	49 (75.4%)
Ulcerative colitis	16 (24.6%)

senior IBD endoscopist, an independent senior colon and rectal surgeon, and the senior and junior authors. Patients with AST were analyzed for gender, underlying IBD diagnosis, and location in the bowel of the inflammatory process. One patient with indeterminate colitis was excluded from the study. Data were examined using Fisher's exact test. A $P < 0.05$ was a priori considered statistically significant.

RESULTS

The most common features of the 2 types of AST are shown in Table 1. "Elephant ears" were consistently described as being painless, whereas those arising from healed anal fissures or ulcers were more likely to have been associated with pain. Examples of typical "elephant ears" are shown in Figure 1A and other less typical AST in Figure 1B.

There were no gender differences within our population of 169 patients: 56.5% of patients were male and 43.5% were female. As determined by accepted clinical, radiological, endoscopic, and histologic criteria, independent of the AST, 61.8% of the patients had CD and 37.6% had UC. In all, 65 out of 169 (38.5%) patients were determined to have typical ASTs of CD. Of these patients with AST, 75.4% had CD and 24.6% had UC ($P = 0.005$) (Table 2). Location of disease was also reviewed in a subset of patients with AST for which this information was clearly available ($n = 49$). Categories used were 1) ileitis, 2) colitis, and 3) ileocolitis. A trend was noted toward a lower incidence of AST in patients with ileitis (36.7%) and ileocolitis (16.3%) as compared with 46.9% in patients with colitis ($P = 0.067$) (Table 3).

DISCUSSION

In most cases, intestinal and extraintestinal manifestations of CD are identified coincidentally. However, cutaneous signs often precede intestinal disease by months or even years, underscoring their diagnostic importance.[3–5] Numerous studies of anorectal manifestations of CD have included fissures, abscesses, rectal strictures, and fistulas. Yet AST, acknowledged to be the most common cutaneous manifestation of CD, have never been studied independently and have infrequently been even mentioned.[4–12] This study is the first to focus specifically on AST in patients with IBD.

TABLE 3. Distribution of Intestinal Involvement in Subset of Patients with Type 1 Anal Skin Tags ("Elephant Ears") ($n=49$)

Colitis	23 (46.9%)
Ileitis	18 (36.7%)
Ileocolitis	8 (16.3%)

While there have been reports that ASTs are more prominent when CD is active, others have noted that their appearance is independent of the activity of intestinal disease or other perianal manifestations.[13,14] This will be the focus of a future study.

AST rarely require treatment and surgical intervention is generally not recommended. However, Taylor et al[15] investigated excisional biopsies of AST as an adjunct to rectal biopsy in patients with known CD. Granulomas were found in almost 30% and, when present, were more plentiful in skin tags as compared to the biopsies of the rectal mucosa.[16] No granulomas were present in control AST obtained from patients without CD. This strongly suggests that AST may provide external evidence of internal disease. Currently, most colorectal surgeons avoid excision of AST, fearing complications with wound healing and possible anal incontinence.[1,13] This attitude is likely based on much earlier observations which referred to fistulas and abscesses when AST were simply included with other perirectal complications of CD and not studied independently.[6,7]

With respect to location of the primary bowel disease and the presence of perianal disease in CD, patients with CD limited to the colon have been reported to be more likely to develop these lesions and to have them as presenting symptoms as compared to patients with small bowel disease (52% versus 14%).[12] Some have reported an even higher incidence of rectal involvement when perianal disease was present.[13]

In a patient with a clinical presentation or family history that may be suggestive of IBD, the presence of AST must remain suspect of underlying CD. The question remains whether the diagnosis of CD versus UC should depend more on the presence of characteristic AST or the endoscopic appearance when that favors the diagnosis of UC.

In our study, typical AST were found more frequently in patients with CD as compared to patients with UC, confirming previous reports that they are more diagnostic of the former. In addition, AST were more commonly found in patients with CD limited to the colon as compared to patients with ileitis or ileocolitis. More details remain to fully characterize AST of CD and perhaps aid in understanding the prognosis for these affected patients. What are the range of sizes and the variety of appearances? Are they histologically different than those which might accompany UC? Attempts have already been made to determine the association of perirectal CD (fistulas and strictures) and the location of the inflammatory process in the bowel as well as internal fistulas.[17,18] What happens to these skin tags coincident with clinical response to specific therapies?

As it is not the standard of care to biopsy or remove AST in order to make a histologic diagnosis, particularly in asymptomatic patients, we must defer to clinical expertise to make the diagnosis. This study emphasizes the importance of carefully describing the morphologic characteristics of AST of CD to help the clinician make the distinction on physical examination. Perhaps it may be proven that the current therapy of CD might once again permit biopsies of AST to be taken without provocation of disease activity and this will assist in establishing a more definitive mechanism for their origin.

ASTs are often encountered on rectal exams, although their diagnostic significance may not even be considered. We believe that this has been an important omission in reports on CD over the years and we hope that this study will serve as a springboard for future investigation of this subject. Indeed, AST might represent a genetic phenotype for more accurate classification of CD. For now, we encourage clinicians to review the descriptive characteristics of typical AST of CD presented in this article and when they are encountered on physical exam to consider the diagnosis of CD even before any endoscopic or radiologic investigation is pursued. This is particularly so in young people with diarrhea, abdominal pain, retarded growth, and development and/or a family history of CD.

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