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RESEARCH ARTICLE

Cutaneous Symptoms Observed in Patients Hospitalized in Gastroenterology Service: A 207-Case Single-Center Study

Gastroenteroloji Servisinde Yatan Hastalarda Gözlenen Kutanöz Belirtiler: 207 Olguluk Tek Merkezli Bir Çalışma

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ABSTRACT

Objective: To characterize the spectrum of cutaneous findings observed in adult patients hospitalized for gastroenterological diseases who required dermatology consultation.

Materials and Methods: In this single-center, prospective, cross-sectional descriptive study, adult patients hospitalized in the Gastroenterology Service of Gaziantep University Faculty of Medicine between September 2022 and September 2023 were evaluated when dermatologic findings were present. Demographic and clinical data, underlying gastroenterological diagnoses, medications, dermatologic symptoms, lesion morphology, distribution, duration and final dermatologic diagnoses were recorded. Diagnoses were based on history and complete dermatologic examination, supplemented by potassium hydroxide microscopy, wound culture and histopathologic examination when clinically indicated. Data were analyzed descriptively.

Results: A total of 207 patients were included (107 men [51.69%] and 100 women [48.31%]; mean age, 54.30 ± 18.75 years). The most frequent underlying diagnoses were pancreatic diseases (26.09%), hepatobiliary disorders (23.67%), liver cirrhosis (19.81%), gastrointestinal malignancy (16.43%) and inflammatory bowel disease (8.21%). The most common cutaneous findings were pruritus (60.38%), skin color changes, mainly icterus or pallor (56.52%), xerosis cutis (45.41%), hyperkeratotic changes (43.47%) and infections (35.26%). Dermatologic diagnoses were most often established clinically by history and physical examination.

Conclusion: Dermatologic findings in hospitalized gastroenterology patients are heterogeneous and include disease-related clues as well as nonspecific findings related to age, nutritional status, systemic illness or treatment. In this selected consultation-based cohort, pruritus, color change and xerosis were the leading findings. These data support dermatologic assessment when cutaneous symptoms are present in gastroenterology wards, but should not be interpreted as prevalence estimates for all gastroenterology inpatients.

Keywords: Gastroenterological diseases, xerosis cutis, pruritus, pigmentary changes, hepatobiliary disease, inflammatory bowel disease.

ÖZET

Amaç: Gastroenterolojik hastalık nedeniyle yatırılan ve dermatoloji konsültasyonu gerektiren erişkin hastalarda saptanan kutanöz bulguların dağılımını ve klinik özelliklerini değerlendirmek.

Gereç ve Yöntemler: Bu tek merkezli, prospektif, kesitsel tanımlayıcı çalışmada, Eylül 2022 ile Eylül 2023 arasında Gaziantep Üniversitesi Tıp Fakültesi Gastroenteroloji Servisi'nde yatan ve dermatolojik bulgusu bulunan erişkin hastalar değerlendirildi. Demografik veriler, mevcut gastroenterolojik tanı, kullanılan ilaçlar, deri semptomları, lezyonların yerleşimi, morfolojisi, süresi ve dermatolojik tanıları kaydedildi. Tanılar öykü ve dermatolojik muayene temelinde konuldu; gerekli olgularda KOH ile direkt mikroskobik inceleme, yara kültürü ve histopatolojik inceleme kullanıldı. Veriler tanımlayıcı olarak sunuldu.

Bulgular: Çalışmaya 207 hasta dahil edildi (107 erkek [%51,69] ve 100 kadın [%48,31]; ortalama yaş 54,30 ± 18,75 yıl). En sık altta yatan tanılar pankreas hastalıkları (%26,09), hepatobiliyer hastalıklar (%23,67), karaciğer sirozu (%19,81), gastrointestinal malignite (%16,43) ve inflamatuvar bağırsak hastalığı (%8,21) idi. En sık kutanöz bulgular kaşıntı (%60,38), başlıca ikter veya solukluk şeklinde renk değişikliği (%56,52), kserozis kutis (%45,41), hiperkeratotik değişiklikler (%43,47) ve enfeksiyonlar (%35,26) olarak saptandı.

Sonuç: Gastroenteroloji servisinde yatan hastalarda dermatolojik bulgular geniş bir klinik yelpaze göstermektedir. Bu konsültasyon temelli seçilmiş kohortta kaşıntı, renk değişikliği ve kserozis öne çıkmıştır. Bulgular, gastroenteroloji servislerinde kutanöz semptomu olan hastalarda dermatolojik değerlendirmenin önemini desteklemekle birlikte, tüm gastroenteroloji hastaları için prevalans verisi olarak yorumlanmamalıdır.

Anahtar Kelimeler: Gastroenterolojik hastalıklar, kserozis kutis, kaşıntı, pigment değişiklikleri, hepatobiliyer hastalık, inflamatuvar bağırsak hastalığı.

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INTRODUCTION

The skin may provide important clinical clues to systemic disease, and gastrointestinal, hepatobiliary and pancreatic disorders are among the systemic conditions in which cutaneous findings are frequently encountered. These manifestations range from nonspecific findings such as pruritus and xerosis to more disease-related clues, including jaundice, vascular changes, paraneoplastic dermatoses and inflammatory bowel disease (IBD)-associated mucocutaneous lesions (1-6). The clinical relevance of these findings is not uniform. Some lesions reflect the pathophysiology of the underlying disease, such as cholestasis-associated pruritus or IBD-related reactive dermatoses; others may be secondary to malnutrition, advanced age, prolonged hospitalization, infection risk or medications. In patients with malignancy, selected paraneoplastic dermatoses may occasionally precede the diagnosis, whereas many common findings, such as xerosis or seborrheic keratosis, require cautious interpretation (2,3).

Most published data focus on specific disease groups, particularly IBD or chronic liver disease. Studies evaluating the overall dermatologic spectrum in hospitalized gastroenterology patients remain limited, especially in single-center inpatient settings (7). The present study aimed to describe the frequency, distribution and clinical characteristics of dermatologic findings in adult patients hospitalized in a gastroenterology ward who had cutaneous findings requiring dermatology consultation.

MATERIALS AND METHODS

This was a single-center, prospective, cross-sectional descriptive observational study. Adult patients aged 18 years or older who were hospitalized in the Gastroenterology Service of Gaziantep University Faculty of Medicine between September 2022 and September 2023 were included if they had dermatologic findings requiring dermatology consultation. Only patients with evident cutaneous or mucosal findings were evaluated. Therefore, the study population represents a selected consultation-based subgroup and not all hospitalized gastroenterology patients. Demographic data (age and sex), primary gastroenterological diagnosis, duration of the underlying disease, medications used for the underlying condition, lesion location, morphology, duration, associated symptoms and final dermatologic diagnosis were recorded. Dermatologic diagnoses were established using clinical history and dermatologic examination. Potassium hydroxide microscopy, wound culture and histopathologic examination were performed when clinically indicated.

Statistical analyses were performed using IBM SPSS Statistics software. Because the study was descriptive, continuous variables were summarized as mean ± standard deviation (SD), and categorical variables were presented as number and percentage. No comparative or inferential statistical analyses were performed. The study was approved by the ethics committee on 31 August 2022 (approval code: 2022/288). All patients were informed about the study, and written informed consent was obtained.

RESULTS

The study included 207 adult patients hospitalized with gastroenterological diseases. Of these, 107 patients (51.69%) were male and 100 (48.31%) were female. The mean age of the cohort was 54.30 ± 18.75 years. The distribution of primary gastroenterological diagnoses is shown in Figure 1, and mean age by diagnostic group is summarized in Table 1. A total of 49 patients were hospitalized with hepatobiliary disorders other than liver cirrhosis. Most of these patients had gallbladder or biliary tract disease (n=43, 87.75%); toxic hepatitis was identified in 3 patients (6.12%), hydatid cyst disease in 2 patients (4.08%) and autoimmune hepatitis in 1 patient (2.04%).

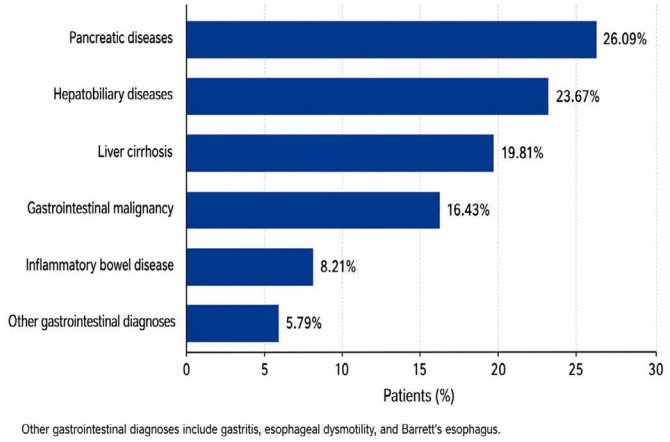

Figure 1. Distribution of primary gastroenterological diagnoses among hospitalized patients (n=207).

Table 1. Mean age and standard deviation by primary gastroenterological diagnosis

Primary diagnosis	n (%)	Age, mean ± SD (years)
Liver cirrhosis	41 (19.81)	58.12 ± 16.73
Hepatobiliary diseases	49 (23.67)	53.98 ± 18.58
Gastrointestinal malignancy	34 (16.43)	61.68 ± 14.22
Pancreatic diseases	54 (26.09)	55.24 ± 19.48
Inflammatory bowel disease	17 (8.21)	33.35 ± 13.20
Other (gastritis, esophageal dysmotility, Barrett's esophagus)	12 (5.79)	47.25 ± 20.22

SD: standard deviation.

Table 2. Distribution of cutaneous findings in the study cohort

Cutaneous finding	Number of patients	%
Pigmentation changes	44	21.25
Skin color changes	117	56.52
Xerosis cutis	94	45.41
Infections	73	35.26
Hair changes	37	17.87
Hyperkeratotic changes	90	43.47
Pruritus	125	60.38
Nail changes	32	15.45
Vascular changes	53	25.60
Eczema	20	9.66
Oral mucosal findings	11	5.31
Autoimmune/immune-mediated dermatoses	5	2.41
Drug eruptions	3	1.44
Other findings	111	53.62
Ascites/pretibial edema	40	19.32*
Rosacea	29	14.01*

Note: More than one dermatologic finding could be recorded in the same patient; therefore, percentages may exceed 100%. Pigmentation changes included lentigo/hyperpigmentation. Skin color changes included icterus/pallor. *Within the "other findings" category, ascites/pretibial edema accounted for 36.03% and rosacea for 26.12%.

Among the 34 patients with gastrointestinal malignancy, pancreatic cancer was the most common diagnosis (n=10, 29.41%), followed by hepatocellular carcinoma (n=8, 23.52%), colon cancer (n=5, 14.70%), cholangiocarcinoma (n=4, 11.76%) and gastric cancer (n=3, 8.82%). Metastatic gastrointestinal malignancy was present in 2 patients (5.88%), and gallbladder adenocarcinoma and esophageal cancer were each observed in 1 patient (2.94%). Pancreatic diseases accounted for 54 admissions. Acute pancreatitis was the predominant diagnosis (n=46, 85.18%), whereas chronic pancreatitis was diagnosed in 8 patients (14.81%). Seventeen patients had IBD; Crohn's disease was more frequent (n=13, 76.47%) than ulcerative colitis (n=4, 23.52%).

The distribution of dermatologic findings is presented in Table 2. Because more than one dermatologic finding could be recorded in the same patient, percentages are not mutually exclusive. The most common findings were pruritus (n=125, 60.38%), skin color changes (n=117, 56.52%), xerosis cutis (n=94, 45.41%), hyperkeratotic changes (n=90, 43.47%) and infections (n=73, 35.26%). On detailed assessment, solar lentigo was the most common pigmentation change (77.27%). Among patients with color change, icterus (51.28%) and pallor (39.31%) were the leading findings. All patients with xerosis had diffuse xerosis cutis. Fungal infection was the most common infectious diagnosis (58.90%). Androgenetic alopecia was the dominant hair finding (89.18%). Localized hyperkeratosis was the most common hyperkeratotic change (67.77%), followed by seborrheic keratosis (25.55%). Most patients with pruritus had generalized pruritus (94.40%).

Among patients with nail changes, onychomycosis was the most common diagnosis (81.25%), followed by yellow nail discoloration (56.25%). Telangiectasia was the most frequent vascular change (69.81%), followed by varicosities (45.28%). Oral aphthae accounted for most oral mucosal findings (81.81%). Autoimmune or immune-mediated dermatoses were observed in 5 patients: psoriasis vulgaris in 3, hidradenitis suppurativa in 1 and dermatitis herpetiformis in 1. Within the "other findings" category, ascites or pretibial edema and rosacea were the leading subcategories.

DISCUSSION

This study describes the dermatologic spectrum observed in a selected group of adult patients hospitalized in a gastroenterology ward and referred for dermatologic evaluation. The leading findings were pruritus, color change, xerosis cutis, hyperkeratotic changes and infections. Because the cohort included only patients with dermatologic findings requiring consultation, these results should be interpreted as the distribution of findings within a symptomatic inpatient subgroup rather than the prevalence of skin disease among all gastroenterology inpatients. Our findings partly overlap with the limited inpatient literature from Türkiye. Karabay et al. reported skin findings among patients hospitalized in a gastroenterology clinic and emphasized that most findings were nonspecific, while a smaller proportion were more directly related to gastrointestinal disease (7). In the present cohort, pancreatic and hepatobiliary disorders were the most frequent underlying diagnostic groups, which likely reflects the case mix of the ward during the study period rather than a disease-specific predisposition to dermatologic consultation.

Hepatobiliary disease and liver cirrhosis together represented 90 patients in the cohort. In this group, pruritus, xerosis and icteric discoloration were prominent. These findings are clinically plausible, as liver disease may be accompanied by jaundice, pruritus, pigmentary change, vascular lesions, palmar erythema, spider angioma, nail findings and xerosis (1,8,12). The comparison with primary biliary cholangitis/cirrhosis literature should be made carefully: Koulentaki et al. evaluated a specific primary biliary cirrhosis population and reported high rates of pruritus, xerosis, dermographism and

fungal infections (9). Our lower rate of infections and absence of dermographism likely reflect differences in diagnostic composition, inpatient selection and the consultation-based design. Cholestasis-associated pruritus is multifactorial. Older explanations emphasized endogenous opioids, whereas more recent work has also focused on bile acid-related signaling, autotaxin-lysophosphatidic acid pathways and nonhistaminergic neural mechanisms (10,11). In this context, the high rate of generalized pruritus in hepatobiliary disease is consistent with clinical experience, but our descriptive design does not allow mechanistic interpretation. Palmar erythema and spider angioma were observed in a limited number of cirrhosis patients; these lesions are classically linked to chronic liver disease and altered vascular or hormonal regulation (12).

Patients with gastrointestinal malignancy also showed a broad dermatologic spectrum. Paraneoplastic dermatoses, direct infiltration, metastasis and treatment-related reactions are well recognized in gastrointestinal cancers (2,13). In our malignancy subgroup, pruritus was frequent. Large clinical data have shown an association between pruritus and malignancy, particularly hepatobiliary, hematologic and skin cancers; however, such associations do not imply that pruritus is specific for cancer in an individual hospitalized patient (14). In our cohort, concomitant xerosis and older age may have contributed substantially to itch burden. Several common or potentially paraneoplastic findings in the malignancy group require cautious interpretation. Xerosis was frequent and has also been described among patients with internal malignancies, but it remains common in older and systemically ill patients and should not be overinterpreted (15). Seborrheic keratoses were observed, but no patient had a convincing Leser-Trélat sign; the association between seborrheic keratoses and internal malignancy remains controversial (16). One patient with colon adenocarcinoma had acquired hypertrichosis lanuginosa, a rare paraneoplastic clue that has been reported with gastrointestinal malignancies, including colorectal cancer (17,18). Nail changes were less frequent than in some chemotherapy-focused series, probably because not all patients had received chemotherapy at the time of dermatologic evaluation (19,20). Rosacea was also observed in the malignancy subgroup. Although population-based data have reported associations between rosacea and certain cancers, our study had no control group and cannot support any inference regarding cancer risk (21).

Pancreatic diseases formed the largest primary diagnostic group. Pruritus and icterus were common in these patients, which may reflect biliary obstruction or hepatobiliary involvement in a subset of cases. Two patients had xanthomas. Specific cutaneous signs of severe acute pancreatitis, such as Cullen, Grey Turner, Fox or Bryant signs, were not observed. These hemorrhagic signs are rare but clinically important because they may point to severe pancreatic or retroperitoneal pathology (22,23). IBD accounted for a relatively small subgroup. Oral aphthae and perianal fistulas were the most relevant mucocutaneous findings in Crohn's disease. Erythema nodosum and pyoderma gangrenosum, which are among the best-known IBD-associated dermatoses, were not observed. This is most likely related to the limited number of IBD patients, the timing of hospitalization and the consultation-based design rather than a true absence of these manifestations in the local IBD population (3-6,24-26). One Crohn's disease patient had psoriasis. The epidemiologic association between psoriasis and IBD is well established, but a single case in this cohort cannot be used to draw any conclusion regarding directionality or risk (27).

A considerable proportion of findings, including xerosis cutis, eczema, solar lentigines, seborrheic keratoses, onychomycosis, androgenetic alopecia, rosacea and nonspecific nail changes, are not specific to gastrointestinal disease. In hospitalized patients, these findings may reflect age, nutritional status, systemic inflammation, reduced mobility, hygiene-related factors, immunosuppression or drug exposure. Their documentation remains clinically useful, but they should be separated from disease-specific or diagnostically suggestive dermatoses in the interpretation of the study. This study has several limitations. It was conducted in a single center and included only hospitalized patients with dermatologic findings requiring consultation; therefore, it is subject to selection bias and does not represent all gastroenterology inpatients. The absence of a control group and the use of descriptive statistics preclude causal inference or prevalence estimation. Disease activity scores, nutritional parameters and standardized pruritus or quality-of-life measures were not systematically evaluated. Finally, some common dermatologic findings may have been influenced by age, hospitalization and comorbid conditions rather than the primary gastrointestinal diagnosis.

CONCLUSION

Dermatologic findings in hospitalized gastroenterology patients encompass a wide clinical spectrum. In this selected cohort, pruritus, color change and xerosis cutis were the most frequent findings, while hepatobiliary disease, gastrointestinal malignancy, pancreatic disease and IBD each showed clinically distinct but partly overlapping dermatologic patterns. Collaboration between dermatology and gastroenterology may facilitate recognition of disease-related skin clues, management of symptomatic findings and identification of treatment-related adverse events. Larger multicenter studies with control groups and standardized clinical measures are needed to clarify the diagnostic and prognostic value of these associations.

DECLARATIONS

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