

Dermatological Manifestations Associated with Rheumatic Disorders in a Tertiary Care Center

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Abstract:

Background and Aim: Rheumatic diseases encompass a diverse range of conditions, many of which present with notable skin manifestations. This research aimed to explore the patterns of skin-related symptoms seen in patients with rheumatic disorders at a tertiary care centre.

Materials and Methods: This analysis was done in the dermatological department with the linked medical college and hospital. The study involved 50 patients, including newly diagnosed and referred rheumatoid arthritis patients. The study collected demographic data such as age, gender, occupation, residence, and clinical diagnosis. The study focused on lupus, scleroderma, rheumatoid, psoriatic, and systemic vasculitis.

Results: Sixteen out of 50 cases had lupus erythematosus, 10 had scleroderma, followed by dermatomyositis and cutaneous vasculitis. Two cases of Behçet's illness were noted. Periungual erythema (n=11) and telangiectasias (n=10) were the most common symptoms of dermatomyositis (DM). Heliotrope rash, Gottron's sign, and Gottron's papules were observed in 12 and 10 cases, respectively. Palmar erythema (n=5), Shawl's sign (n=3), and Holster's sign (n=3) were also noted.

Conclusion: Understanding these diseases' skin signs is crucial. Joint clinics between rheumatologists and dermatologists can improve diagnosis, therapy, and follow-up, as well as prognosis.

Keywords: Dermatomyositis, Gottron's Papules, Periungual Erythema, Rheumatic diseases.

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Introduction

Rheumatoid arthritis (RA) is a chronic autoimmune disorder that primarily affects the joints, leading to inflammation in a symmetrical pattern, as well as potential involvement of other systems in the body. This inflammation leads to ongoing damage to the joints and surrounding structures, resulting in functional limitations and a reduced quality of life. Rheumatoid arthritis (RA) impacts not just the synovial joints but also leads to various skin-related symptoms, such as rheumatoid nodules, neutrophilic dermatoses, and vasculitis. This occurs due to a complex interaction of immune system dysregulation.[1,2]

Lupus erythematosus, scleroderma, dermatomyositis, rheumatoid arthritis, Still's disease, Sjogren's syndrome, mixed connective tissue diseases, and psoriatic arthritis are among the rheumatological conditions that are commonly observed. Individuals with this condition often display both rheumatic and mucocutaneous symptoms concurrently. Rheumatic diseases encompass a diverse range of conditions, many of

which present with notable skin manifestations. This may be the first sign that appears in a systemic rheumatic disease. [3,4] Skin diseases can impact individuals across all age groups, from infants to seniors. Beyond causing harm in various ways, it can significantly affect both individuals and the community as a whole. Morbidity holds considerable importance as it can present itself through disfigurement, disability, or symptoms like an intense itch that is difficult to articulate. Furthermore, a decline in quality of life, feelings of social isolation and financial strain are also important factors to consider. While it is rare, it is important to acknowledge that metastatic skin cancer can lead to death.

Various dermatological manifestations can serve as important indicators to help determine if an individual is experiencing benign or malignant systemic diseases. [5,6] The climate, socioeconomic status, religious practices, and cultural norms of different regions of India are all quite different from one another. India is a nation that showcases an

impressive diversity of variations. Several factors, alongside the hot and humid climate, significantly contribute to the development of various skin diseases, including pyoderma, scabies, and fungal infections, particularly in developing countries. Key factors to consider are insufficient hygiene practices, limited access to clean water, overcrowded living conditions, and elevated levels of interpersonal interactions. This research aimed to explore the patterns of skin-related symptoms seen in patients with rheumatic disorders at a tertiary care centre.

Material and Methods

The present analysis was conducted within the dermatology department, in collaboration with the affiliated medical college and hospital. The current investigation was designed to focus on an observational study. The research project was completed over a span of six months. The patients received detailed information about the study's methodology. Following the confirmation of the patient's informed consent, a total of 50 patients were included in the research study. Individuals who visited the outpatient department (OPD) with skin-related symptoms and received a diagnosis of rheumatic disorders were part of the study.

A systematic random sampling method was employed to select the cases, which comprised patients with rheumatological disorders, those with joint and/or bone involvement linked to cutaneous disorders, as well as patients visiting the outpatient department of rheumatology. These patients were followed up for a period of six months in order to evaluate the mucocutaneous side effects related to the treatment. Individuals without any skin-related symptoms who visited the outpatient rheumatology department were excluded from the study.

We included all patients with rheumatoid arthritis who were newly diagnosed, along with referrals of patients who had previously received a diagnosis of rheumatoid arthritis.

The emphasis, conversely, was placed on instances that did not require referrals, where the dermatologist was responsible for making the initial diagnosis independently. A thorough dermatological examination and a detailed history were conducted during the procedure. The study aimed to gather a variety of demographic information, including age, gender, occupation, residence, and clinical diagnosis.

The study primarily focused on the lupus group of disorders, scleroderma group of disorders, rheumatoid arthritis, psoriatic arthritis, and systemic vasculitis. There were several occasions when serological markers and confirmatory skin biopsies were pursued whenever it was considered essential to do so.

Statistical Analysis

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After compiling and entering the recorded data into a spreadsheet using Microsoft Excel, the next step involved exporting the data to the data editor of SPSS Version 20.0, developed by SPSS Inc. in Chicago, Illinois, United States. For continuous variables, we expressed the mean and standard deviation, while for categorical variables, we summarized the data using frequencies and percentages.

Results

A total of 50 patients took part in the research study. The study revealed that the average age of the participants was 35 years. The patients were categorized into different age groups for analysis. A total of 35 females and 15 males were in attendance. The number of females was in fact greater when compared to males. The ratio of males to females was found to be one to two. The largest proportion of the total patient population consists of individuals aged 20 to 40.

In this research, the most commonly diagnosed rheumatic disorders were those related to lupus and scleroderma. Among the fifty cases examined, 16 individuals received a diagnosis of lupus erythematosus, 10 were identified with scleroderma, while dermatomyositis and cutaneous vasculitis followed as the next two diagnoses. It was found that DLE was the condition that was most prevalent in males, while SLE was more prevalent in females.

In the trunk area, annular polycyclic lesions were observed in all patients diagnosed with SCLE. Females between the ages of 20 and 40 years old are the most likely to be affected by scleroderma. All instances of systemic sclerosis exhibited features such as Raynaud's phenomenon, sclerodactyly, digital ulcers, and facial changes including mask-like appearance, perioral furrowing, microstomia, and a beaked nose. Three patients diagnosed with severe Raynaud's phenomenon experienced finger amputations. In this series of patients, there was no indication of calcinosis present. In a limited number of patients, we observed changes in pigmentation, including salt and pepper dyspigmentation in two cases and an Addisonian pattern of hyperpigmentation in one case.

In individuals diagnosed with dermatomyositis (DM), the most frequently observed manifestations included periungual erythema (n=11) and telangiectasias (n=10). Observations included heliotrope rash in 12 cases, Gottron's sign in 12 cases, and Gottron's papules in 10 cases. Palmar erythema (n=5), Shawl's sign (n=3), and Holster's sign (n=3) were among the additional characteristics observed. Additionally, there were isolated cases of poikiloderma atrophicum vasculare, calcinosis in a juvenile case, lipodystrophy in a juvenile case, poikiloderma associated with gastric carcinoma, and erythroderma. Among the four patients diagnosed

with Behçet's disease, most exhibited orogenital ulcerations. One patient was diagnosed with pyoderma gangrenosum, while two other patients presented with pustules. Three patients underwent a positive pathergy test. Spring and autumn were the seasons during which most cases were observed. Four patients with rheumatoid arthritis were recognized as having skin lesions and were

subsequently referred to our department for further evaluation. During the designated timeframe, three individuals were diagnosed with psoriatic arthritis. One individual presented with palmoplantar psoriasis, while another was diagnosed with erythrodermic psoriasis. Most individuals were affected by chronic plaque psoriasis.

Table 1: Demographic characteristics of study patients

Parameters	Groups	Number of patients
Age (years)	0 – 20 years	12
	21 – 40 years	30
	41 – 70 years	08
Gender	Females	15
	Males	35

Discussion

The adolescent years, marked by psychological vulnerability, can greatly influence the overall quality of life that an individual may experience in the long run. During puberty and adolescence, the skin undergoes various physiological changes that can lead to a range of effects.

In numerous cases, this could serve as a valid reason to consult with a healthcare provider. [7] Various factors can affect the prevalence of skin diseases among individuals.

These include genetics, race, religion, occupation, nutrition, and personal habits, among others. The increased prevalence of a specific type of skin disorder in a certain region is linked to geographical factors, including seasonal changes and climate conditions.

The climate, socioeconomic status, religious practices, and cultural norms across various regions of India exhibit significant diversity. India is a nation that showcases an impressive diversity of variations. [8] The series identified lupus and scleroderma as the most common rheumatic disorders present.

This study differs significantly from previous research on rheumatic disorders, where osteoarthritis or rheumatoid arthritis were the primary clinical diagnoses. [19:20] The presence of distinct and early dermatological features in certain rheumatic conditions, as opposed to others, highlights the variation in data reporting between rheumatologists and dermatologists. [9]

Nonsteroidal anti-inflammatory drugs (NSAIDs), methotrexate, oral corticosteroids, leflunomide, antimalarial, Dapsone, TNF-alpha inhibitors, and intravenous immunoglobulin were among the medications that were presented to the fifty patients who participated in the study. During the six-month follow-up period, it was observed that mucocutaneous side effects were reported

exclusively among patients who had received treatment with systemic corticosteroids and leflunomide. Dermatophytosis, acneiform eruptions, onychomycosis, and vulvovaginal candidiasis were among the most frequently observed adverse effects that were identified as being caused by oral corticosteroids. This finding aligns with the research conducted by Saag et al. [10]

Conclusion

It is important to have a thorough understanding of the skin-related symptoms of these diseases. Collaborative clinics that bring together rheumatologists and dermatologists can significantly enhance the diagnosis, management, and follow-up of these conditions, as well as provide valuable insights into prognosis.

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