

**Clinical Spectrum of Dermatological In-patients Admitted in Dermatology Ward: A retrospective study**

<sup>1</sup>Dr. Masarat Jabeen, MD, Lecturer, Deptt. of Dermatology, GMC, Jammu

<sup>2</sup>Dr. Devraj Dogra, MD, Professor, Deptt. of Dermatology, GMC, Jammu

<sup>3</sup>Dr. Naina Kala Dogra, MD, Associate Professor, Deptt. of Dermatology, GMC, Jammu

<sup>4</sup>Dr. Shivangi Rana, MD, Assistant Professor, Deptt. of Dermatology, Chacha Nehru Bal Chikitsalaya, Delhi

<sup>5</sup>Dr. Gurkim Kaur, MBBS, Post graduate, Deptt. of Dermatology, GMC, Jammu

<sup>6</sup>Dr. Jyoti Thapa, MBBS, Post graduate, Deptt. of Dermatology, GMC, Jammu

**Corresponding Author:** Dr. Shivangi Rana, MD, Assistant Professor, Deptt. of Dermatology, Chacha Nehru Bal Chikitsalaya, Delhi

**Citation this Article:** Dr. Masarat Jabeen, Dr. Devraj Dogra, Dr. Naina Kala Dogra, Dr. Shivangi Rana, Dr. Gurkim Kaur, Dr. Jyoti Thapa, “Clinical Spectrum of Dermatological In-patients Admitted in Dermatology Ward: A retrospective study”, IJMSIR- February - 2021, Vol – 6, Issue - 1, P. No. 169 – 173.

**Type of Publication:** Original Research Article

**Conflicts of Interest:** Nil

**Abstract**

**Background:** In clinical specialty of Dermatology, majority of the patients are managed on outpatient department (OPD) basis but substantial number of patients need in patient- admission for their adequate management. In-patient care not only hastens recovery but also improves quality of life.

**Objectives:** 1.To study the clinical spectrum of skin diseases of In-patients in Dermatology ward.

**Material and Methods:** A retrospective study of admission and discharge records of indoor patients of dermatology ward for three consecutive years was done. The data obtained was statistically analysed with emphasis on gender, age and hospital stay.

**Results:** A total of 204 patients were admitted out of which 46% (n=94) were males and 54% (n=110) were females. The most common was immunobullous disorders (49%) followed by psoriasis (11.2%), systemic sclerosis (10.2%) and the least common were

morphea (1%), cutaneous leishmaniasis (1%), mycetoma (1%) among others.

**Conclusion:** Since pemphigus was the most common diagnosis in our study and there is a HLA association with pemphigus, we suggest HLA typing in patients for better understanding about underlying genetic predisposition.

**Keywords:** Indoor dermatology, prevalence, cross sectional.

**Introduction**

Most dermatological diseases are treated primarily in outpatient department, however in certain conditions there is a need for in-patient admission in dermatology as well. Apart from conventional medical treatment, now there is an increase in use of pulse therapy of various drugs especially steroids and biologicals like rituximab for many chronic dermatological conditions. These therapies need in-patient admission. Certain dermatological conditions which require multispecialty

treatment also require admission. In-patient care not only hastens the recovery but also improves the quality of life [1,2]. Most of the data on indoor patients are from western countries and very few studies are available from India. We are reporting data of indoor patients from dermatology department of a tertiary care hospital over a period of 3 years.

### **Materials and method**

A retrospective study was conducted in the indoor patient ward of dermatology department of a tertiary care hospital, over the period of 3 years. Patient's data was analyzed for age, gender, dermatology disease and length of hospital stay.

### **Results**

A total of 204 patients were admitted in the study period, out of which there were 94 males (46%) and 110 females (54%). The age group of patients ranged from 6-98 years, with mean age of 52.5 years, as per age patients were categorized into 3 groups. The patients were admitted for 18 diseases. The most common diseases were immunobullous diseases (49%, n=100), psoriasis (10.7%, n=22), systemic sclerosis (SS) (10.2%, n=21), dermatitis (8.3%, n=17) and leprosy (7.3%, n=15). Other less common diseases were erythroderma (E) (n=8), erythema multiforme(EM) (n=5), adverse drug reactions (ADR) (n=4), pyoderma gangrenosum (PG) (n=2), dermatomyositis (DM)(n=1), hidradenitis suppurativa (HS)(n=1), leishmaniasis(n=1) , morphea(n=1), mycetoma(n=1) , paraneoplastic pemphigus (PNP)(n=1), reiter's syndrome (n=1), sarcoidosis(n=1), squamous cell carcinoma (SCC)(n=1), & systemic lupus erythematosus (SLE)(n=1) (table 1). In Immunobullous diseases, pemphigus vulgaris (PV) was the most common (85%), followed by pemphigus foliaceus (PF) (5%), and bullous pemphigoid (BP)

(4%), the less common variant were bullous systemic lupus erythematosus (BSLE), linear IgA (LIG) and paraneoplastic pemphigus (PNP) . The second most common disorder was psoriasis. We had 64.2% cases of unstable plaque psoriasis, and equal number of cases of pustular psoriasis (PUS) followed by psoriatic erythroderma (17.8 %). The next common disease in indoor patient was systemic sclerosis (SS), we found only 1 male patient with SS and rest all the patients were females.

In the cases of dermatitis, most of the cases were of airborne contact dermatitis to parthenium (58.8%), followed by allergic contact dermatitis (29.4%) and only few cases were of atopic dermatitis (11.7%). There were total 14 cases of lepromatous leprosy (LL) with type 2 reaction and only one case of borderline leprosy (BL) with severe type 1 reaction.

There were gender differences on distribution of diseases. Pemphigus was the most common disease in both males (32%) and females (45%), whereas the second most common disease was dermatitis (17%) in males and SS (14%) in females. The statistical analysis showed SS and LL are more skewed towards particular sex; SS had more female preponderance (p=0.026) while LL had more male preponderance (p=0.031).

On age related parameters, it was observed that pemphigus (p=0.006), EM (p=0.001) and psoriasis (p=0.042) were more prevalent in active age group of 20-60 years, whereas dermatitis (p=0.012) was more prevalent in old age above 60 years.

The patients stayed in hospital ranged from 3 days to 2months. The average duration of stay was 12 days. It was observed that for diseases like pemphigus (8 days), SS (6 days), PUS (12 days) and EM (5 days) patients were for short stay less than 10 days; whereas in case of dermatitis (16 days) and unstable psoriasis (14 days)

stay was more than a week to month. However, long stay of more than one month was seen only in LL (28 days), E (76 days), and SCC (40 days) patients.

Table 1: Table showing percentage wise distribution of various diseases requiring inpatient admission

Diseases	Number of patients (n)	Percentage (%)
Immunobullous disorders	100	49
Psoriasis	22	10.7
Systemic sclerosis	21	10.2
Dermatitis	17	8.3
Leprosy	15	7.3
Erythroderma	8	3.9
Erythema multiforme (EM)	5	2.4
Adverse drug reaction (ADR)	4	1.9
Pyoderma gangrenosum (PG)	2	0.9
Dermatomyositis	1	0.4
Hidradenitis suppurativa (HS)	1	0.4
Leishmaniasis	1	0.4
Morphea	1	0.4
Mycetoma	1	0.4
Paraneoplastic pemphigus (PNP)	1	0.4
Reiter's disease	1	0.4
Sarcoidosis	1	0.4
Squamous cell carcinoma (SCC)	1	0.4
Systemic lupus erythematosus (SLE)	1	0.4

## Discussion

We conducted a retrospective study of 204 patients admitted in the in-patient ward of dermatology department over the span of 3 years. The females outnumbered males, with the ratio of 1.17, which was different from the study conducted in eastern India where there was male preponderance [3].

Immunobullous disorder was the most common condition for inpatient admission in our study (49%, n=100), out of which majority of patients had pemphigus vulgaris (n=85) followed by pemphigus foliaceus. This finding was in concordance with a similar study in India done by Sen et al and studies from Iran and Nepal [3-5].

Although the immunobullous disorder is a common disorder in indoor patients from eastern part of the world, studies from west showed eczema/dermatitis to be the most common reason for admission [6, 7]. This difference shows the demographic variation in the patterns of disease.

Psoriasis was the second common condition in our patients followed by systemic sclerosis, dermatitis and leprosy. This finding was different from Sen et al [1] study where erythroderma, infective disorder, adverse cutaneous reactions and dermatitis were common in patient diagnosis after immunobullous disorder. This might be attributed to the geographical variations, as our study was from northern India which is relatively distant from equator, such a geographical location could be responsible for increased prevalence of psoriasis in our study. Also, there can be some genetic predisposition to certain diseases in the population we studied.

Systemic sclerosis (SS) is the third most common condition in our admitted patients. In a study from north India, it was found that systemic sclerosis is the

second most common connective tissue disorder after systemic lupus erythematosus (SLE) in an ANA positive patients [8].

In our study we also found that SS had a female preponderance. This data was statistically significant also and similar findings were seen from past studies [8].

In the cases of dermatitis, parthenium dermatitis was most common in our patients. It presents as air born contact dermatitis and has been widely reported from various parts of India [9]. It is the commonest cause of plant dermatitis in India and is responsible for nearly 40% of all patients attending contact dermatitis clinics, this condition has been found to be common in elderly males, and we also found statistically significant numbers of males of age more than 60 years having parthenium dermatitis [10, 11]. A study from the west has reported atopic dermatitis to be the most common dermatitis in indoor patients [7]. These finding suggests role of various environmental and demographic factors on the pathogenesis of diseases.

Leprosy being an endemic disease in India, can have multiple presentation, although most of the cases can be managed in outpatient department, few of the patients develop hypersensitivity reactions that requires in-patient treatment. In our study we had admitted 14 cases of erythema nodosum leprosum i.e. type 2 leprosy reaction , seen mostly in lepromatous leprosy patients. Maximum number of patients were males; there was a statistically significant association of leprosy with male patients. The epidemiological reports from India has also shown that prevalence of leprosy is more common in men than women [12].

Among the adverse drug reactions, we found 3 patients of Steven Johnson syndrome (SJS) and 1 case of drug induced hypersensitivity syndrome. We did not have

any patient of toxic epidermal necrolysis (TEN). A study in Nepal by Parajuli S et al [5] found drug rash (21.6%) as third common diagnosis in indoor patients and majority of them had SJS (50.8%). Studies from Spain and US also found drug rash to be less common among admitted patients. A systematic review of cutaneous adverse drug reaction in Indian population also found that mild drug rash like exanthematous rash and fixed drug rash were more common than SJS/TEN [13]. This shows that most of Indian patients have mild drug rash and only few require hospitalization. The cutaneous drug eruption is HLA dependent and genetically determined, therefore we can see so much variation in presentation of ADRs despite use of same medicines.

We found parasitic infection, subcutaneous mycosis and neoplasms to be the least common diagnosis in our study. In a study from Spain, neoplastic disorder was found to be the most common diagnosis in admitted patients, however in our study we found only one case of squamous cell carcinoma [14]. This finding suggests that prevalence of cutaneous malignancies are more in the west and the type of malignancies are also different as melanoma is more common in Caucasians whereas it's very rare in Indian population.

### **Conclusion**

This retrospective study shows variation in the clinical profile of indoor patients in different parts of the world. Pemphigus is the most common diagnosis in our study and this finding is consistent with studies from South East Asian countries [3-5]. As we know there is HLA association with pemphigus, we suggest HLA typing in south east Asian population which can give us better understanding about the underlying genetic predisposition associated with this population.

We also found SS to be more common in our indoor patients which was not seen in studies from west. This could be due to increase use of steroid pulse therapy in SS patients which requires admission in hospital.

#### Abbreviations

Systemic sclerosis (SS), Erythroderma (E), Erythema multiforme (EM), Adverse drug reaction (ADR), Pyoderma gangrenosum (PG), Dermatomyositis (DM), Hidradenitis suppurativa (HS), Paraneoplastic pemphigus (PNP), Squamous cell carcinoma (SCC), Systemic lupus erythematosus (SLE), Pemphigus vulgaris (PV), Pemphigus foliaceus (PF), Bullous pemphigoid (BP), Bullous systemic lupus erythematosus (BSLE), Linear IgA disease (LIG), Pustular psoriasis (PUS), Lepromatous leprosy (LL), Borderline leprosy (BL), Steven Johnson syndrome (SJS), Toxic epidermal necrolysis (TEN).

#### References

1. Kurwa HA, Finlay AY. Dermatology in-patient management greatly improves life quality. *Br J Dermatol* 1995;133:575-8.
2. Hurwitz D, Kerdel FA, Kirsner RS. Hospitalization for skin disease improves quality of life. *Arch Dermatol* 1997;133:797-83.
3. Sen A, Chowdhury S, Poddar I, Bandyopadhyay D. Inpatient Dermatology: Characteristics of Patients and Admissions in a Tertiary Level Hospital in Eastern India. *Indian J Dermatol*. 2016;61(5):561-564.
4. Iranian Journal of Dermatology, Vol 11, No 4, Winter 2008
5. S Parajuli, U Paudel, DB Pokhrel - Nepal Journal of Dermatology ..., 2013
6. de Paula Samorano-Lima L, Quitério LM, Sanches JA Jr, Neto CF. Inpatient dermatology: profile of patients and characteristics of admissions to a tertiary dermatology inpatient unit in São Paulo, Brazil. *Int J Dermatol*. 2014;53(6):685-691.
7. Ayyalaraju RS, Finlay AY, Dykes PJ, Trent JT, Kirsner RS, Kerdel FA. Hospitalization for severe skin disease improves quality of life in the United Kingdom and the United States: a comparative study. *J Am Acad Dermatol*. 2003;49(2):249-254.
8. Minz RW, Kumar Y, Anand S, et al. Antinuclear antibody positive autoimmune disorders in North India: an appraisal. *Rheumatol Int*. 2012;32(9):2883-29.
9. Sharma SC, Kaur S. Airborne contact dermatitis from Compositae plant in Northern India. *Contact Dermatitis* 1989;21:1-15.
10. Singh KK, Singh G. Air-borne Contact Dermatitis in Varanasi. *Indian J Dermatol Venereol Leprol* 1986; 52:140-2
11. Sharma VK. Patch testing with the European standard series and compositae extracts in patients with airborne contact dermatitis. *Contact Dermatitis* 2001;44:49-50
12. Some Epidemiological Observations on Leprosy in India' Anil Kumar, Anita Girdhar, V. Yadav, and B. K. Girdhar' Volume 60. Number 3 international j of leprosy.
13. Patel TK, Thakkar SH, Sharma D. Cutaneous adverse drug reactions in Indian population: A systematic review. *Indian Dermatol Online J*. 2014;5(2):S76-S86.
14. García-Doval I, Feal C, Rosón E, de la Torre C, Abalde MT, Florez A et al. Inpatient dermatology: characteristics of patients and admissions in a Spanish hospital. *J Eur Acad Dermatol Venereol*. 2002;16(4)334-8.