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Histopathological Spectrum of Lichenoid and Interface Dermatoses: A Ten-Year Retrospective Study from Abuja, Nigeria

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ABSTRACT

Introduction: *Lichenoid and interface dermatoses comprise a diverse group of inflammatory skin disorders that share characteristic histopathological features, particularly injury to basal keratinocytes and inflammation at the dermo-epidermal junction. Despite their clinical importance, information on their histopathological spectrum in Nigeria remains limited, especially from private pathology practice.*

Objective: *To describe the histopathological spectrum, demographic characteristics, and specimen features of lichenoid and interface dermatoses diagnosed over a ten-year period at a private pathology laboratory in Abuja, Nigeria.*

Methods: *A retrospective descriptive study was conducted on skin biopsy specimens diagnosed as lichenoid or interface dermatoses between January 2016 and December 2025. Information on age, sex, anatomical site, and biopsy technique was retrieved from laboratory records and analysed descriptively.*

Results: *A total of 336 specimens were identified. The largest proportion was from individuals aged 30–49 years (30.4%), followed by adults whose specific age was not recorded (25.3%) and those aged 10–29 years (19.6%). Females accounted for 58.0% of specimens, giving a female-to-male ratio of approximately 1.4:1. The lower limb was the most frequently documented biopsy site (30.1%), followed by multiple sites (26.5%) and the upper limb (15.8%). Punch biopsy was the most commonly used sampling technique (61.3%), followed by incisional biopsy (28.6%).*

Conclusion: *In this Abuja laboratory series, lichenoid and interface dermatoses were most frequently represented among middle-aged adults and females, with the lower limbs and multiple anatomical sites commonly involved. The findings provide useful insight into the pattern of these disorders in private dermatopathology practice in Nigeria and add to the limited local literature. Further multicentre studies incorporating detailed clinical and histopathological correlation would provide a broader understanding of these conditions in Nigeria.*

Keywords: *Histopathology; Interface dermatitis; Lichenoid dermatoses; Lichen planus; Nigeria; Abuja.*

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Introduction

Lichenoid and interface dermatoses are a diverse group of inflammatory skin disorders that share a characteristic pattern of injury at the dermoepidermal junction rather than a single underlying cause. Histologically, interface dermatitis is characterised by basal keratinocyte injury and apoptosis, usually with a lymphocytic infiltrate along the dermoepidermal junction and variable pigmentary incontinence. These changes can present with diverse clinical features and are particularly relevant in darker skin, where post-inflammatory hyperpigmentation may be prominent [1].

Interface dermatitis is largely mediated by a cytotoxic immune response and occurs in a range of clinically distinct conditions. Lichen planus and cutaneous lupus erythematosus are classic examples, while similar patterns may be seen in drug reactions, erythema multiforme, dermatomyositis, graft-versus-host disease and other lichenoid disorders [1]. Recognising these patterns accurately is therefore important for meaningful clinicopathological diagnosis and appropriate management.

In sub-Saharan Africa, dermatopathology services and published data remain limited. A South African study of interface dermatoses in individuals with Fitzpatrick skin types III–VI demonstrated persistent inflammatory cells and melanophages during disease evolution and highlighted the importance of post-inflammatory hyperpigmentation in darker skin [2].

Available Nigerian studies also suggest that lichenoid disorders form an important part of dermatopathology practice. In Ibadan, papulosquamous disorders accounted for 18.7% of non-neoplastic skin lesions, with lichen planus/lichenoid dermatitis comprising 12.9% [3]. In Kano, lichen planus accounted for 4% of dermatology outpatient presentations, with female predominance and varied clinical manifestations [4]. Another Nigerian study demonstrated considerable clinical and histopathological variation between classic and hypertrophic lichen planus [5]. Despite these findings, long-term studies describing the broader histopathological spectrum of lichenoid and interface dermatoses in Nigeria remain limited, particularly in private pathology practice.

This study therefore reviews a ten-year caseload from a private pathology laboratory in Abuja to describe the demographic characteristics, anatomical distribution, biopsy techniques and histopathological spectrum of these disorders.

Materials and Methods

This was a retrospective, descriptive cross-sectional study conducted at a private pathology laboratory in Abuja, Nigeria.

The study covered a ten-year period, from January 2017 to December 2025.

Histopathology request forms, laboratory registers, and archived reports of all skin biopsies processed at the laboratory during the study period were retrieved and reviewed. Cases with a histopathological diagnosis within the lichenoid and interface dermatoses spectrum (including, but not limited to, lichen planus and its variants, lichenoid drug eruption, discoid/cutaneous lupus erythematosus, erythema multiforme, graft-versus-host disease, and other lichenoid/interface reaction patterns) were extracted and included.

All specimens with a confirmed histopathological diagnosis of a lichenoid or interface dermatosis, with complete or partial demographic and clinical data, were included. Specimens with inadequate tissue for diagnosis, illegible or missing histology reports, and non-lichenoid/interface dermatoses were excluded.

For each eligible case, the following variables were extracted from laboratory records: patient age, sex, anatomical site of biopsy, type of biopsy procedure performed (punch, incisional, or excisional), and final histopathological diagnosis. Data were anonymised and entered into a structured proforma/ spreadsheet.

Tissue specimens had been routinely fixed in 10% neutral-buffered formalin, processed, embedded in paraffin, sectioned at 3–5 µm, and stained with haematoxylin and eosin. Diagnoses as documented by the reporting pathologist(s) at the time of original reporting were used for this study; no re-review of archival slides was performed.

Data were analysed using Microsoft Excel. Categorical variables were summarised as frequencies and percentages.

Ethical approval was obtained from ethics committee, and patient confidentiality was maintained by anonymising all data before analysis. Given the retrospective, laboratory-record-based design, individual patient consent was waived.

Results

The dataset totals 336 specimens diagnosed with lichenoid and interface dermatoses over the study period, patients aged 30–49 years constituted the largest proportion (102, 30.4%), followed by adults of unspecified age (85, 25.3%) and those aged 10–29 years (66, 19.6%). The 50–69-year age group comprised 58 specimens (17.3%), while the extremes of age were least represented, with 18 (5.4%) specimens from patients aged <10 years and 7 (2.1%) from those aged ≥70 years. (Table 1)

Table 1: Age Group Distribution of Lichenoid and Interface Dermatoses

Age group (years)	Frequency (n)	Percentage (%)
30–49	102	30.4
Adult—age unknown	85	25.3
10–29	66	19.6
50–69	58	17.3
<10	18	5.4
≥70	7	2.1
Total	**336**	**100.0**

Females predominated, with 195 (58.0%) specimens and 136 (40.5%) males, for a female-to-male ratio of approximately 1.4:1. Sex was not documented in 5 (1.5%) specimens. (Figure 1)

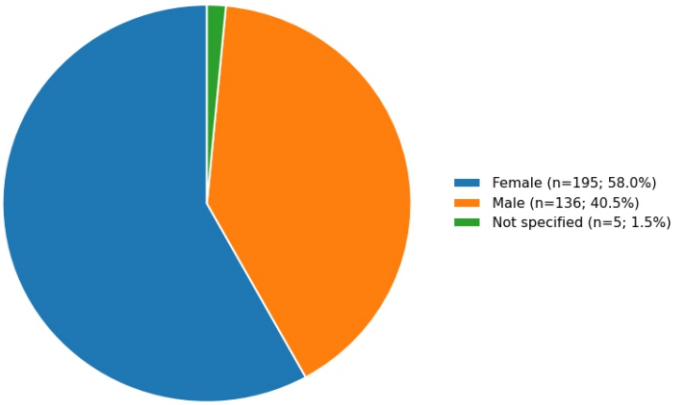

Figure 1: Sex Distribution of Lichenoid and Interface Dermatoses

The lower limb was the most common anatomical site, represented in 101 (30.1%) specimens, followed by lesions involving multiple sites in 89 (26.5%) and the upper limb in 53 (15.8%). Anatomical site was not specified for 25 (7.4%) specimens. The scalp (19, 5.7%) and back (18, 5.4%) were the next most frequently documented sites, whereas involvement of the ear and shoulder/clavicle was uncommon, each accounting for a single specimen (0.3%). (Table 2)

Table 2: Anatomical Site Distribution of Lichenoid and Interface Dermatoses

Skin site	Frequency (n)	Percentage (%)
Lower limb	101	30.1
Multiple sites	89	26.5
Upper limb	53	15.8
Not specified	25	7.4
Scalp	19	5.7
Back	18	5.4
Abdomen	6	1.8
Groin/genital/perineum	6	1.8
Face	5	1.5
Neck	5	1.5
Chest/breast	3	0.9
Axilla	2	0.6
Buttock	2	0.6
Ear	1	0.3
Shoulder/clavicle	1	0.3
Total	**336**	**100.0**

With regard to biopsy technique, punch biopsy was the most frequently employed method, used in 206 (61.3%) specimens, followed by incisional biopsy in 96 (28.6%). The biopsy technique was unspecified for 28 (8.3%) specimens, and excisional biopsy was the least common, accounting for only 6 (1.8%) specimens. (Table 3)

Table 3: Biopsy Procedure Used for Lichenoid and Interface Dermatoses

Biopsy procedure	Frequency (n)	Percentage (%)
Punch biopsy	206	61.3
Incisional biopsy	96	28.6
Not specified	28	8.3
Excisional biopsy	6	1.8
Total	**336**	**100.0**

Discussion

This ten-year retrospective study reviewed 336 specimens diagnosed histologically as lichenoid and interface dermatoses at a private diagnostic pathology laboratory in Abuja, Nigeria.

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The main findings were a predominance of middle-aged adults, a modest female predominance, frequent involvement of the lower limbs and multiple sites, and predominant use of punch biopsy. These findings broadly reflect the recognised demographic and clinical patterns of lichenoid disorders, although comparison with population-based studies should be made cautiously because this series represents a pathology-service caseload rather than disease prevalence.

Individuals aged 30–49 years constituted the largest age group (30.4%), while those aged 50–69 years accounted for a further 17.3%. This adult predominance agrees with international reports that cutaneous lichen planus occurs mainly between the third and sixth decades of life [6,7]. A global systematic review also reported a greater burden among individuals aged 40 years and above [8]. The small proportion of specimens from children below 10 years (5.4%) is consistent with the recognised rarity of lichen planus in childhood [6,7].

Females accounted for 58.0% of specimens, giving a female-to-male ratio of approximately 1.4:1. This is comparable with reports showing a modest female predominance, including a clinicopathological study in which females represented 57.6% of cases [4]. Similarly, the Kano study reported females comprising 57% of 158 patients with lichen planus [4]. The reported mean age of 37.2 years in a Nigerian comparison of classic and hypertrophic lichen planus also supports the predominance of these disorders among young and middle-aged adults [5]. However, sex distribution is not uniform across studies, with some reviews reporting little or no consistent difference between males and females [6,7]. Variations in referral patterns, case ascertainment, and the specific disorders included may contribute to these differences.

The lower limb was the most frequently documented site (30.1%), followed by multiple-site involvement (26.5%) and the upper limb (15.8%). The prominence of lower-limb disease is consistent with the recognised predilection of hypertrophic lichen planus for the pretibial and lower-extremity regions [6]. Multiple-site involvement may reflect the chronic or disseminated nature of some lichenoid disorders, although this cannot be confirmed because detailed clinical diagnoses and lesion-specific distributions were not consistently available.

Punch biopsy was the predominant sampling method (61.3%), reflecting its usefulness in inflammatory dermatoses, where an adequately deep specimen can demonstrate the epidermis, dermoepidermal junction, and superficial dermis. Histological recognition of an interface pattern, however, is not synonymous with lichen planus, as similar changes occur in lichenoid drug reactions, connective-tissue disease, erythema multiforme and graft-versus-host disease [7]. A clinicopathological study of 117 lichenoid interface dermatoses reported clinicopathological concordance in 70.9% of cases, emphasising the value of integrating clinical and histological findings [8].

The findings also fit within the limited Nigerian literature. In Ibadan, papulosquamous disorders accounted for 18.7% of 209 non-neoplastic skin lesions, with lichen planus/lichenoid dermatitis comprising 12.9% of all lesions and representing the largest subgroup within the papulosquamous category [9]. Although the methodology and denominators differ from the present study, these findings indicate that lichenoid disorders constitute an important component of Nigerian dermatopathology practice. In Kano, lichen planus accounted for 4% of dermatology outpatient presentations, with most patients aged 20–49 years, broadly corresponding with the age distribution observed in this laboratory series [4].

Published evidence from sub-Saharan Africa remains limited. A South African study of interface dermatitis highlighted persistent inflammatory cells and melanophages during disease evolution and emphasised post-inflammatory hyperpigmentation as an important sequela, particularly in individuals with Fitzpatrick skin types III–VI [2]. This is particularly relevant in darker skin, where pigmentary incontinence following basal keratinocyte injury may result in clinically significant and persistent hyperpigmentation.

This study provides additional long-term histopathological data from Abuja and a perspective from private diagnostic pathology practice, complementing evidence derived mainly from tertiary dermatology services and teaching hospitals. However, its laboratory-based nature limits generalisation to the wider population. The proportion of specimens with incomplete demographic or anatomical information, together with the absence of detailed clinical diagnoses, treatment history and follow-up, also limited clinicopathological correlation.

In summary, lichenoid and interface dermatoses in this Abuja series predominantly involved middle-aged adults and females, with the lower limbs and multiple sites commonly represented. The findings are broadly comparable with published global and Nigerian observations and highlight the importance of adequate biopsy sampling and clinicopathological correlation in diagnosing interface-pattern dermatoses. Multicentre Nigerian studies incorporating detailed clinical, histopathological and immunopathological data would help better define the spectrum of these disorders.

Conclusion

This ten-year study shows that lichenoid and interface dermatoses form an important part of skin biopsy diagnoses in this Abuja pathology laboratory. They occurred predominantly in middle-aged adults and females, with the lower limbs and multiple anatomical sites commonly represented. Punch biopsy was the most frequently used sampling technique. The findings are broadly comparable with reports from Nigeria and elsewhere and highlight the importance of accurate histopathological assessment, complete clinical information, and close clinicopathological correlation in diagnosing these disorders.

Recommendations

Complete clinical information, particularly patient age and precise biopsy site, should be provided on pathology request forms to improve diagnostic interpretation and clinicopathological correlation. Close collaboration between clinicians and pathologists should be encouraged, with ancillary investigations such as direct immunofluorescence used when histological findings are inconclusive or when an autoimmune/interface disorder is suspected. Punch biopsy remains an appropriate sampling method for most inflammatory and lichenoid lesions, while larger or diagnostically uncertain lesions may require alternative biopsy approaches. Further multicentre Nigerian studies with detailed clinical and histopathological correlation are recommended to better define the spectrum of lichenoid and interface dermatoses across the country. Strengthening dermatopathology training and access to appropriate ancillary diagnostic facilities would further improve diagnostic capacity, particularly in private and non-tertiary laboratories.

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