

Contribution of Dermatopathology in the Diagnosis of Cutaneous Diseases in Côte d'Ivoire

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Abstract

Introduction: Dermatopathology is a fundamental complementary examination for the diagnosis of certain skin conditions when the clinic is hesitant. We therefore initiated this work in order to determine the contribution of dermatopathology in the diagnostic management of certain dermatoses at the Treichville University Hospital Centre of Abidjan. **Material and methods:** This is a cross-sectional descriptive study with data collection from medical records in the dermatology-venereology and pathological anatomy departments of the Treichville University Hospital Centre. **Results:** We included and analyzed 184 patients with a sex ratio of 1.2. 46.2% of lesions were generalized with 2% mucosal localization. Erythematous lesions (24.45%) and papules (22.82%) were the most biopsied lesions. The single biopsy sample accounted for 71.2% of the cases and the lesion size ranged from 0.5 cm to 10 cm. Biopsy parts of the lesion alone accounted for 65.2% versus 34.8% for those straddling healthy skin and lesion. Histological diagnosis was established in 91.3%. Kaposi disease accounted for 14.9% of cases followed by psoriasis 11.3%. In the case of three diagnostic hypotheses, the concordance was 84.8%. It was 76.6% for two hypotheses mentioned and 52.3% for a single hypothesis. **Conclusion:** This work shows that in more than half of the cases, the clinical hypotheses and the histological diagnosis match. It suggests however to continue the training of dermatologists to improve the skin biopsies and invites to initiate clinicopathological confrontations to better refine the diagnoses.

Keywords

Dermatosis, Histopathology, Biopsy

1. Introduction

The dermatologist still retains the privilege of often being able to make a diagnosis without having to resort to numerous paraclinical examinations. Indeed, many dermatoses do not raise a diagnostic problem. But when the clinic is hesitant, the pathological examination remains a fundamental supplementary examination for the diagnosis of certain skin disorders [1]. However, despite the accessibility of the skin, making biopsy specimens easy, the prescription of pathological examination still seems hesitant in the daily practice of many dermatologists in Abidjan. While skin diseases are among the leading causes of morbidity in Africa and developing countries with a rate around 30% [2]. That's why it has been thought appropriate to conduct this study in order to help improve diagnostic management of dermatoses by anatomico-pathological examination in Côte d'Ivoire.

2. Material and Methods

We carried out a descriptive and analytical cross-sectional study over a period of 15 months from January 2016 to March 2017. The study concerned all the patients seen at the dermatology centre, who had undergone a skin biopsy with pathological analysis performed at the Department of Pathology at Treichville University Hospital Centre. Patients of any sex and age with histopathological evidence of their dermatosis have been included in this study. We provided detailed information about this study to all subjects and obtained their consent to participation. Data from the study were collected on a survey card that included socio-demographic characteristics, clinical and histological data.

The data was entered and analyzed on a computer using Microsoft® Excel® 2010 software version 14.0.4760.1000. As for the analysis of the data, it was made using the software Epi Info 6.4d.

3. Results

3.1. Study Limitations

During our study we were confronted with several difficulties. The lack of a pathological examinations register in the dermatology center made some files unavailable for studies.

The epidemiological elements were not always reported and the clinical aspects of certain diseases were not well described. Some histopathological diagnoses were imprecise and there was no anatomico-clinical confrontation.

3.2. Epidemio-Clinical Aspects

184 patients were included in the study with a sex ratio of 1.2 in favour of men. Patients' ages ranged from 1 to 93 years with an average of 42.4 years. 111 patients (60.3%) patients were between 15 and 49 years of age.

Erythematosquamous lesions (24.45%) and papules (22.82%) were the most biopsied lesions (Table 1). The duration of the pathology ranged from 10 days to

Table 1. Distribution by type of lesion.

Type of lesion	Number (n)	Percentage (n × 100/184)
Erythematous Lesions	45	24.45%
Papule	42	22.82%
Nodule	34	18.48%
Ulceration	20	10.87%
Tumor	18	9.78%
Blister	15	8.15%
Pustule	06	3.27%
Vésicle	04	2.18%

10 years with an average of 258.8 days. More than 1/4 of the patients had a lesion evolving for more than a year. Cutaneous lesions were generalized in 46.2% of cases. The biopsy site was the lower limb (52.5%), upper limb (31.3%), head and neck (22.2%), trunk (13.1%) and oral mucosa (2%).

3.3. Anatomopathological Aspects

In 71.2% of cases the biopsy was unique. 24.5% of patients received 2 biopsies and 4.3% had 3 biopsies. The size of the lesions varied from 0.5 cm to 10 cm. with an average of 1.58 cm ± 0.98. In about 3/4 of the cases, the sample size ranged from 1 - 2 cm. The biopsy part consisted solely of the lesion in 65.2%. It was straddling the healthy skin and lesion in 34.8% of the cases. In 96.2 of the cases the cutaneous biopsies reached the hypodermis.

3.4. Concordance between Histological and Clinical Diagnosis

Of the 184 biopsy samples received, the histological diagnosis was established in 168 cases. It is around 91.3%. In 8.7% of cases, no exact diagnosis could be established by the anatomopathologist. Kaposi's disease (14.9%) (**Figure 1**) and psoriasis (11.3%) (**Figure 2**) were the well-documented histological findings (**Table 2**). The overall agreement between clinical diagnostic hypotheses and histopathological findings was 72.8%. It was 84.8% in the case of three diagnostic hypotheses; of 76.6% for two hypotheses mentioned and 52.3% if a single diagnostic hypothesis was evoked by the clinician (**Table 3**).

4. Discussion

In 15 months, only 184 cutaneous biopsies with pathological examination were performed, with an average of 13 biopsies per month. This result could be explained by the non-systematic use of cutaneous biopsy by Ivorian dermatologists and by the unreliability of anatomopathological findings. In fact, cases of discordance between clinical diagnosis and histopathology are fairly frequent in dermatological practice today, especially concerning inflammatory pathologies [3]. A study carried out in the sub-region also highlighted this fact. Indeed

Table 2. Distribution according to the ten most frequent histological diagnoses.

Histological diagnosis	Number (n)	Percentage (%) (N = 168)
Kaposi's disease	25	14.9%
Psoriasis	19	11.3%
Leprosy	12	7.1%
Lupus	12	7.1%
Squamous cell carcinoma	12	7.1%
Eczema	11	6.5%
Bullous Pemphigoid	7	4.2%
Pemphigus vulgaris	7	4.2%
pyogenic granuloma	5	3.0%
Wart	5	3.0%

Table 3. Distribution according to the anatomo-clinical agreement.

Number of clinical hypotheses	Total (N)	Concordance	
		Number (n)	Percentage (n × 100/N)
In case of three hypotheses	46	39	84.80%
In the case of two hypotheses	94	72	76.60%
In the case of a single hypothesis	44	23	52.30%
In case of one or more hypotheses	184	134	72.80%

**Figure 1.** Clinical and histopathological (×40) aspect of Kaposi disease Image magnification (×40).

For most dermatologists the clinical diagnosis was sufficiently reliable with regard to the lesions, and did not require histological confirmation [4] many dermatologists are also not satisfied with the anatomo-clinical results often rendered. In 60.3% of these cases, the age group was between 15 and 49 years of age. This result is only a reflection of the demographic profile of our young population.

Erythemasquamous and papular lesions were the most biopsied lesions. This could be explained, on the one hand, by the influence of the frequency of



Figure 2. Clinical and histopathological aspect of psoriasis Image magnification ($\times 10$).

Kaposi's disease and psoriasis. In fact, psoriasis is a chronic pathology of difficult management whose histological proof is often necessary and Kaposi disease is an opportunistic disease in the course of HIV infection and [5] [6].

The average duration of dermatoses was 2 years. This long delay could be explained in our context by the financial and geographical inaccessibility to quality care, occult beliefs and self-medication by applying poultices. All this often leads to a modification of the clinical lesions, sometimes causing histopathological diagnostic errors.

According to the literature, the average size required for a good quality cutaneous biopsy is 1.5 to 2 centimetres of large diameter [7]. In our series, 8.7% of pathological examinations were without accurate histological diagnosis. This situation could be favoured on the one hand by the inadequacy of cutaneous histopathologists and on the other hand by the quality of the biopsy and the lack of clinical information. In fact, the information contained in the examination request form plays a predominant role in the histological diagnosis; in addition to the age and sex of the patient, the location of the sample, the accompanying symptoms, the triggers, and the treatments undertaken must be mentioned [8].

In our series, 72.8% of the results of pathological examination were in agreement with one of the diagnostic hypotheses formulated by the clinician. The

proportion of discordant diagnoses was 28.3%. Our results therefore highlight the relative quality of the anatomopathological findings and invite clinicians to perform cutaneous biopsies with demand for anatomopathological results in case of diagnostic doubt. A second or even a third biopsy followed by an anatomo-clinical confrontation is recommended in a situation of persistent discordance [9].

5. Conclusion

This work shows that in more than half of the cases the clinical hypotheses and the histological diagnosis match. It also suggests to reinforce the skills of dermatologists for the realization of cutaneous biopsies and invites to initiate clinico-pathological confrontations to better refine the diagnosis.

Conflict of Interest

None.

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