Original Research Article

Infectious dermatoses in Ziguinchor (Senegal): Epidemiological, clinical and evolutionary particularities

Abstract

Introduction

Infectious dermatoses are common in tropical countries. Their prevalence varies, with fungal causes predominating. Their severity is linked to the risk of life-threatening systemic complications. We aimed to describe the epidemiological, clinical and evolutionary aspects of infectious dermatoses.

Methodology

This was a retrospective, descriptive, cross-sectional study conducted over a period of 08 months. It included all the records of patients treated for infectious dermatoses in the dermatology department of the Ziguinchor regional hospital.

Results

We collected 220 cases of infectious dermatoses, representing a hospital prevalence of 30.3%. The mean age of patients was 30.35 years (107 men and 113 women). Underlying conditions were diabetes in 10.4% (n=23) and HIV 1 infection in 7.27% (n=16). Initial treatment has been given in 31.75% of cases, with self-medication of analgesics in 10% and phytotherapy in 5.29%. A high prevalence of mycotic dermatoses has been noted in 50.7% (n=112), dominated by dermatophytosis in 22.7%. Viral dermatoses have been noted in 28.5% (n=63), with herpes zoster predominating in 6.3%, followed by Gibert pityriasis rosea in 5.4%. Bacterial dermatoses have been noted in 25.4% (n=56), represented mainly by non-necrotizing dermohypodermatitis in 7.2% (n=16). Parasitic dermatoses have been noted in 11.8% (n=26) and were dominated by scabies in 17.7% (n=40). All patients received etiological and symptomatic treatment. The outcome was favorable in 69.5% (n=153), although mortality was 2.27% (n=5).

Conclusion

Infectious dermatoses represent a worrying demand for care in the Ziguinchor region. Fungal and viral causes are the most frequent in our study, although serious bacterial causes, notably bacterial dermohypodermatitis, represent for most of the mortality associated with infectious dermatoses. Early and appropriate management of these dermatoses would help to improve the prognosis of patients.

Key words: Epidemiology, infectious dermatoses, Ziguinchor,Senegal

INTRODUCTION

Infectious dermatoses are cutaneous-mucosal manifestations associated with an infectious parasitic, fungal, bacterial or viral agent [1]. Their epidemiology is varying in tropical Africa, and they often pose a public health challenge [2]. They are a frequent and under-appreciated health problem in Senegal. Delays to come to consult are a constant feature, with populations finding it difficult to access to specialized care. Severity is linked to complications such as septic shock and multi-visceral failure due to the immunosuppression they cause. These infectious dermatoses are often the circumstances in which chronic diseases such as diabetes, HIV infection and cancer have been discovering [1,2]. The aims of this study were to describe the epidemiological, clinical and evolutionary profile of infectious dermatoses in the Ziguinchor region.

Patients and Methods

We had carried out a descriptive cross-sectional study over an 08-month period from January 01, 2019 to August 31, 2019 on the records of patients followed up in the dermatology department of the Ziguinchor regional hospital for infectious dermatosis. The department of Ziguinchor covers an area of 1153 km². It is bordered to the north by the department of Bignonia, to the east by the department of Sedhiou, to the west by the department of Oussouye and to the south by the Republic of Guinea-Bissau (figure 1).The climate is continental, sometimes influenced by the sea. The various winds that blow are the monsoon to the south-north and the maritime trade winds to the north-east and south-west. The population of the commune of Ziguinchor has been estimated at around 621,171. Its ethnic make-up includes diolas, Mandingos, peulhs, wolofs, manjacques, bainoucks, mancagnes and balantes. Administratively, the department of Ziguinchor is divided into 2 arrondissements (Niaguis and Nyassia). In terms of decentralized administration, Ziguinchor is divided into six municipalities

(Niaguis, Adeane, Boutoupa, Camaracounda, Nyassia and Enampore).The regional hospitals border Gambia, Guinea Conakry, Guinea Bissau and Mali. They are home to the two leading dermatology departments in Casamance.

The diagnosis of an infectious dermatosis was based on clinical aspects and/or confirmed by complementary bacteriological, mycological, parasitological and virological examinations.

Data entry and analysis were performed using EpiInfo software version 7.2.4.0.

RESULTS

We recorded 220 cases of infectious dermatoses out of 726 patients seen during the study period, representing a hospital prevalence of 30.3%. The average age of patients was 30, with extremes ranging from 01 to 84 years. Figure 2 shows the age distribution of patients. The patients were 51% male and 49% female, i.e. a sex ratio of 1.04. The therapeutic itinerary of the patients has been illustrated in Table 1. Underlying pathology included diabetes in 23 cases, hypertension in 16 cases, HIV infection in 16 cases, tuberculosis in 7 cases, nephropathy in 5 cases and cardiomyopathy in 2 cases. Infectious dermatoses were mycotic in 112 cases (50.7%), viral in 63 cases (28.5%), bacterial in 56 cases (25.4%) and parasitic in 26 cases (11.8%). Table 2 illustrates the different causes of infectious dermatoses. Mycotic dermatoses were represented by dermatophyties (Figure 3), scalp ringworm (Figure 4), onychomycosis, oral and genital candidiasis and pityriasis versicolor. A case of actinomycotic mycetoma of the nose in a grower of Guinean origin has been noted (Figure 5). Viral dermatoses were represented by intercostal shingles, molluscum contagiosum, varicella and genital condyloma (Figure 6)**.** Bacterial dermatoses were dominated by erysipelas, impetigo (figure 7**)** and furuncle. Parasitic dermatoses included scabies, cutaneous larva migrans and pediculosis pubis. HIV serology was positive in 13 cases (5%), and the dermatoses concerned were necrotizing dermohypodermatitis in 2 cases, ringworm in 2 cases, ringworm of the scalp in 1 case, candidiasis in 4 cases, pediculosis pubis in 1 case, and intercostal shingles in 3 cases.

Cutaneous histopathology confirmed Kaposi's disease in 2 cases and tuberculoid leprosy in one. All patients have been treated according to etiology. Favorable progression was in 153 cases (71%), but patients were lost to follow-up in 56 cases (24%). Death occurred in 5 cases (2%).

DISCUSSION

We report 220 cases of infectious dermatoses in Casamance, representing a hospital frequency of 30.3%. This frequency varies throughout the world and is estimated at between 35.42% and 82% in Africa [3,4] and 52.3% in the United States [5]. Lack of hygiene, promiscuity and insalubrity were the main contributing factors. Children under 9 years of age have been most affected by these infectious dermatoses. These results are similar to those have been reported in the literature [6,7,8]. Initial patient management has been carried out by nurses and traditional healers in 31.7% of cases. This therapeutic itinerary has also been reported in several studies [9,10,11]. In fact, over 80% of the African population uses traditional medicinal plants, based on empirical and socio-cultural beliefs. Due to their beneficial effects, plants have been used as a first-line treatment for skin diseases. However, due to their immuno-allergenicity and pharmacological toxicity, they can trigger or aggravate many dermatoses [12].

Previous ethnobotanical studies had identifying the various medicinal plants used to treat dermatitis in Ziguinchor [13].

There was often an underlying pathology favoring the onset of infectious dermatoses. Most of these were diabetes and HIV infection. Skin lesions were sometimes the reason for the discovery of diabetes in 12.75% of cases [1,14].

Mycotic dermatoses were the most frequent in our study, accounting for 50.7%. Climatic conditions in tropical regions and promiscuity as well as immunodepression were the favouring factors [1,15].

We noted one case of actinomycotic mycetoma in a farmer originally from and resident in Guinea-Bissau. This was an imported case, as Ziguinchor is not a mycetoma-endemic region, with annual rainfall in excess of 1000mm. Mycetoma localization on the nose wing is exceptional. Viral dermatoses were the second most common cause in 28.5% of cases, including herpes zoster (6.3%), molluscum contagiosum (4.5%), condyloma (2%), Kaposi's disease (1.3%) and herpes (0.9%), and were the circumstance leading to the discovery of HIV in 8 cases**.**

Bacterial dermatoses have been accounted for 25.4% of the total. Infectious dermatoses with pyogenic germs were the most frequent, followed by bacterial dermo-hypodermatitis. A single case of tuberculoid leprosy has been noted.

These common bacterial infections have often been reported in previous studies in Africa and they share climatic and environmental factors [1,9,15].In sub-Saharan Africa, several studies

report the role of voluntary cosmetic depigmentation, HIV infection and diabetes as risk factors for leg erysipelas. [1,16]. Parasitic dermatoses accounted for 11.8%, with scabies predominating. Factors favoring scabies were promiscuity, limited resources and poor hygiene [17].The majority of cases progressed favorably with treatment of the cause, and mortality was associated with bacterial dermohypodermatitis necrotizing with septic shock.

CONCLUSION

Infectious dermatoses are a frequent request for care in tropical Africa, particularly in Ziguinchor. They have been dominated by mycotic and viral infections in children. In adults, diabetes and HIV infection are the major contributing factors. Mortality is linked to necrotizing bacterial dermohypodermatitis. Early diagnosis and management can improve prognosis.

Références

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Figure 1: Geographical map of the Ziguinchor region (Senegal)

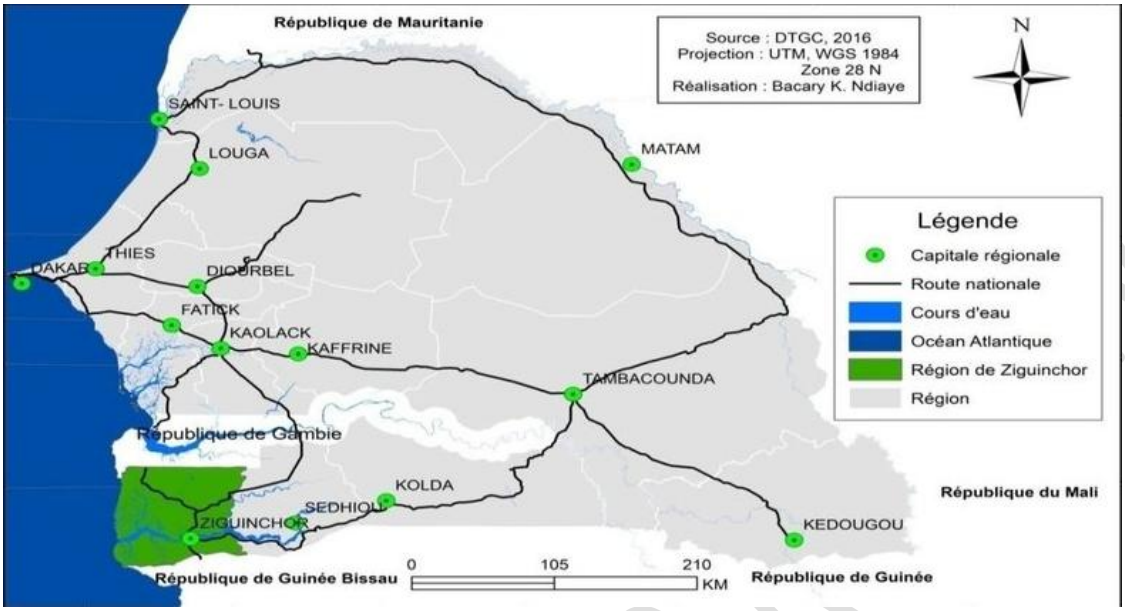

Figure 2: Distribution of patients by age group

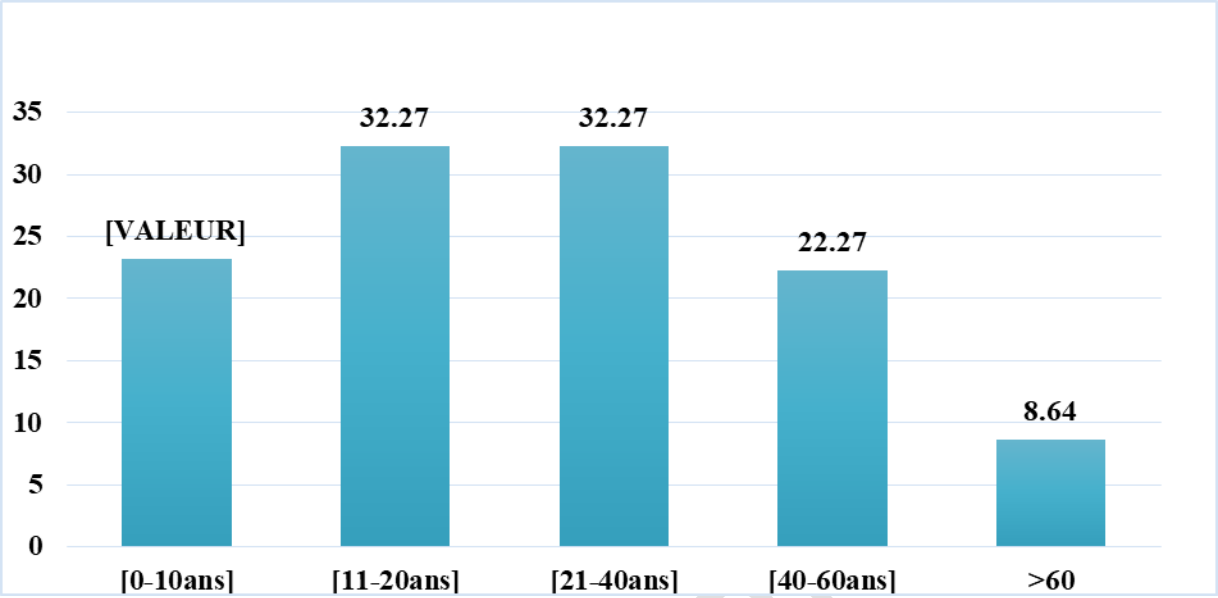

Figure 3: dermatophytosis of the trunk associated with diabetes

Figure 4: ringworm of the scalp in a child

Figure 5 : An actinomycotic mycetoma of the nose in a farmer

Figure 6 : Genital warts associated with HIV infection

Figure 7: facial impetigo in a girl

Table 1 : therapeutic itinary of patients

Initial support	**Number**	**Percentage (%)**
Nurse	10	5,2
Generalist	24	12,7
Dermatologist	171	77,7
Pharmacist	05	2,6
Traditional medecine	10	5,2

Table 2: Causes of infectious dermatoses

Infectious skin diseases	**Number**	**Percentage %**
Mycotic	**112**	**50,7**
Dermatophyties	50	44,6
Scalp ringworm	26	23,2
Onychomycoses	18	16
Candidiasis	9	8
Pityriasis versicolor	8	7
Actinomycotic mycetoma	1	0,8
Viral	**63**	**28,5**
Intercostal shingles	14	22,2
Gibert pityriasis rosea	12	19
Vulgar wart	10	15,8
Molluscum contagiosum	10	15,8

Varicella	8	12,6
Condyloma	4	6,3
Kaposi sarcoma	3	4,7
Génital herpes	2	3,2
Bactérial	**56**	**25,4**
Erysipelas	16	28,5
Impétigo	14	25
Furuncle	8	14,2
Folliculitis	7	12,5
Ecthyma	4	7,14
Necrotizing fasciitis	4	7,14
Abscess	1	1,7
Tuberculoïd leprosy	1	1,7
Gonococcal disease	1	1,7
Parasitaires	**26**	**11,8**
Scabies	17	65,3
Cutaneous larva migrans	7	26,9
Pubic Pediculosis	2	7,6