progression. The main symptoms observed (Table 1: overall results) were confetti skin bleaching (63.4%) (Figure 1). Cutaneous sclerosis (21.3%), hyperchromic maculae (14.1%) and the phenomenon of Raynaud (1.2%). The lesions were found in the limbs (44.3%), the head (16.1%), the bust (39.3%) and generalized in 10.5% (Figure 2). In the SS, the extra-cutaneous manifestations were dominated by digestive affections (52.5%) as well as pulmonary (17.9%), articular (16.5%), cardiovascular (11%), renal (1.2%) and bone (0.9%). All aspects of the Morphea were noted, dominated by plaque morphology (52%), band (24%), saber (20%) and gout (4%). The cutaneous biopsy performed in 167 patients confirmed the result in 90.77% of the cases. The blood count indicated that anemia was more common in the systemic sclerosis (70.9%). HIV infection in patients with systemic scleroderma was 13.6% whereas no patient with localized scleroderma was detected positive. The pulmonary radiography revealed a fibrosis (28.8%). In 16 patients who had a TOGD we noted that the digestive lesions predominate in the esophagus (50%). Repolarisation disorders were predominant (60%). The HTAP (52%) and fluid pericarditis (17.3%) were observed. There is also a predominance of distal arterial disease (75%).

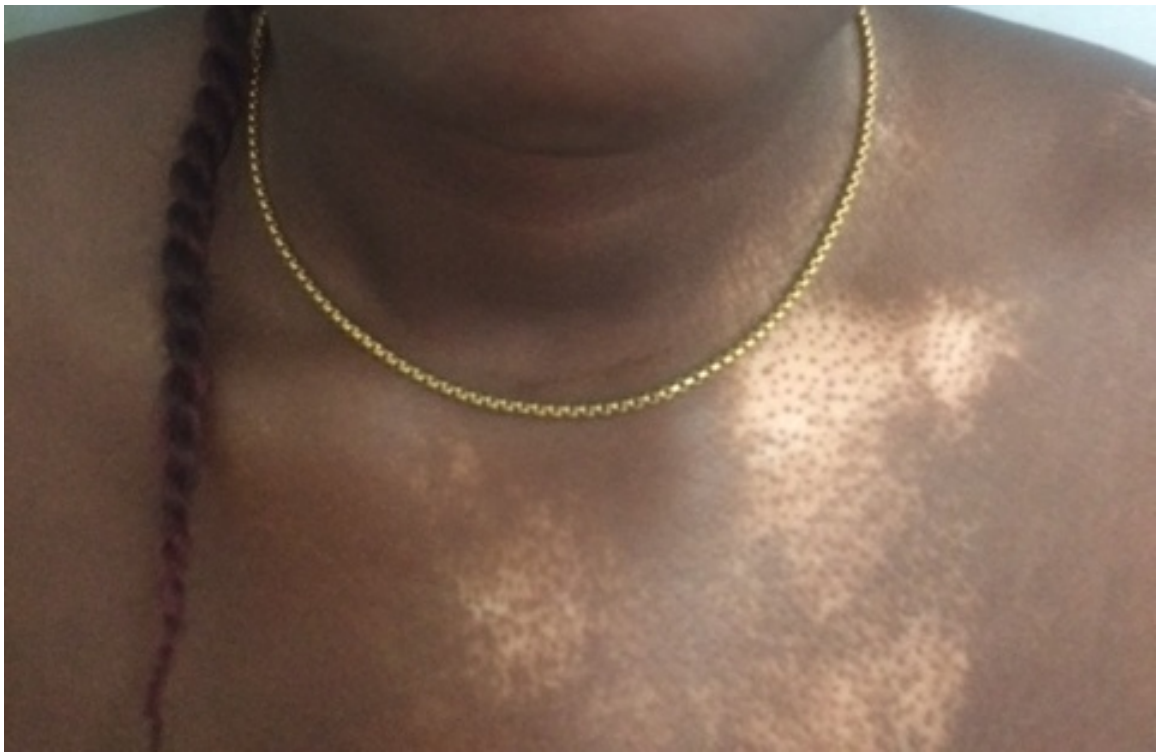

Figure 1: Confetti skin bleaching.

From a therapeutic point of view, the extracts of unsaponifiable avocado and soya (UAS) were the basis of the treatment of our LS patients. The vasodilators (37.5%) and corticosteroids (20.8%) are the most associated with UAS in the SS. The evolution (Table 1: overall results) was satisfactory in LS patients and 5.5% in SS. Regardless of the type of scleroderma, improvement was observed. There were 43 patients lost from sight and we deplored 1.4% deaths.

	localised Scleroderma n (%)	**Systemic Scleroderma (%)**
Clinical aspects		
Confetti skin bleaching (63.6%)	103 (47.5)	33 (15.2)
Skin Sclerosis (20.6%)	29 (13.4)	18 (8.3)
Hyperchromic maculae (14.3%)	22 (10.1)	9 (4.1)
Limited mouth opening (0.9 %)	2 (0.9)	0 (0)
Pulp ulcers (0.5%)	1 (0.5)	0 (0)
Sclerodactyly (0.5%)	1 (0.5)	0 (0)

Raynaud's syndrome (1.4%)	2 (0.9)	1 (0.5)
Treatment		
Extracts of unsaponifiable avocado and soya (69.6%)	144 (66.4)	7 (3.2)
Corticosteroid therapy (20.7%)	2 (0.9)	43 (19.8)
Vasodilators (29%)	0 (0)	63 (29)
Evolution		
Improvement	87 (40)	12 (5.5)
Steady state	42 (19.5)	22 (10.1)
Aggravation	0 (0)	8 (3.7)
Deaths	0 (0)	3 (1.4)
Loss from sight (43)	15 (6.9)	28 (12.9)

Annex: Table 1: Clinical aspects, treatment and evolution of the scleroderma.

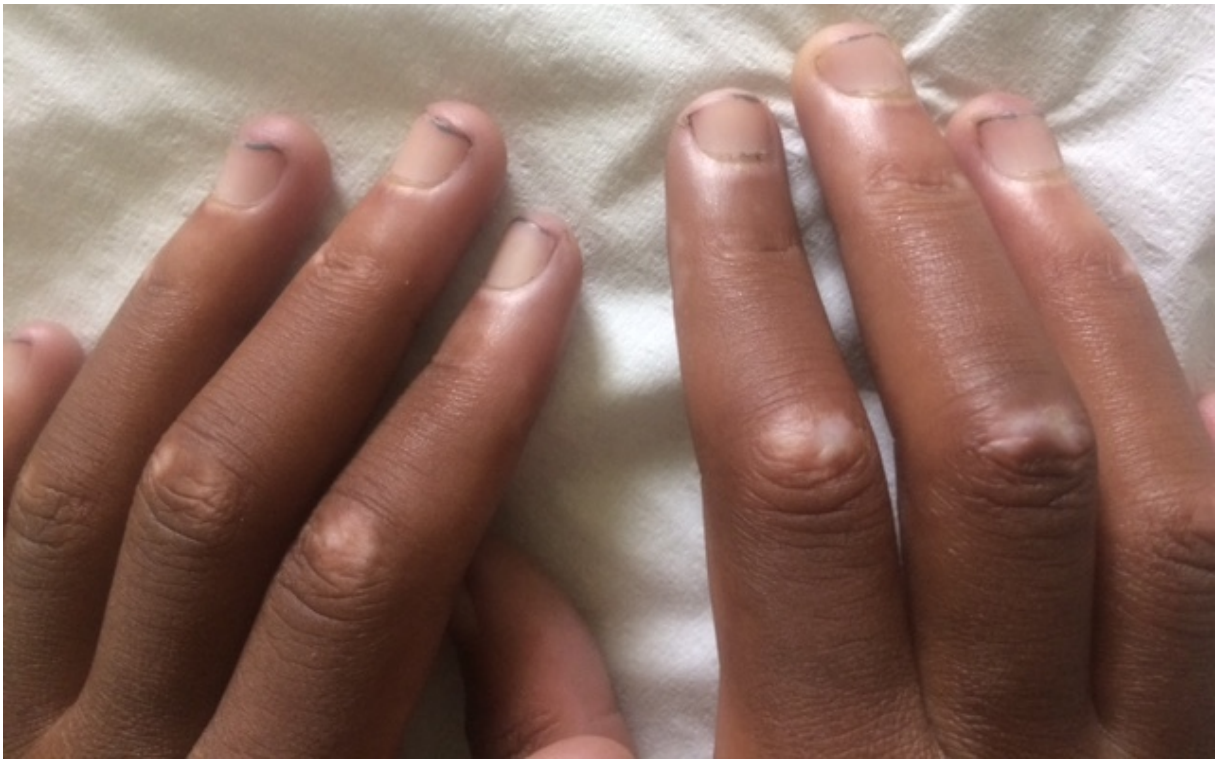

Figure 2: Sclerodactyly.

Discussion

In Côte d'Ivoire, the dermatology services do not have a monopoly on the management of scleroderma patients in hospitals. Some patients may be admitted directly to internal medicine, cardiology, pneumology, rheumatology or even neurology for severe pulmonary arterial hypertension or neurological manifestations. Our results are not exhaustive, but with 217 patients over a period of 32 years in a study on the activity of dermatology services (Treichville and Bouaké) in Côte d'Ivoire, they confirm the scarcity of scleroderma in black Africa. Indeed, Keita [8] had recruited 35 cases of SS in 10 years in Mali and Adelowo [9] in Nigeria had reported 14 cases in 5 years. We believe that this very low frequency in black Africa could be explained, on the one hand, by the non-economic and geographical accessibility to health care services and, on the other hand, by a low exposure of the population to inducing toxicants (Silica, Solvents), since this part of the world is little industrialised. We found a clear female

predominance with a sex ratio of 1.66. It was 0.19 in the series of Dia et al. [10], confirming that scleroderma is mostly a prerogative of female [9,11] and of young subjects especially because in our study, the average age of patients was 30,7 years.

The semiological profile of our patients with SS matches the one described in the European population [1,7]. On the other hand, the confetti skin bleaching presents in all our patients is a peculiarity of the genetically pigmented skin. It dominates the clinical picture in the study by Keita et al. [8] who found it in 88.57% of their patients. This confetti skin bleaching could raise discussion in the subject of pigmented skin for other affections like a vitiligo, a sclerodermatomyositis, or even a lupus. But the existence of the cutaneous sclerosis and the absence of associated muscular involvement make it possible to eliminate these affections. The importance of the cutaneous sclerosis observed in Africans may suggest the severity of this disease in black Africa [12,13], but may be explained by the delay in consultation. The Raynaud's syndrome was found in 3 of our patients. Adelowo et al. [9] found two cases of Raynaud's phenomenon in a population of 14 patients. This confirms the rarity of this phenomenon in Africa [10] probably related to the warm tropical climate as it is triggered by the cold.

On the paraclinic level, our patients did not carry out certain examinations (manometry, cardiac ultrasound and immunoassay) for technical and financial reasons, shortage of equipments. However, the paraclinical tests carried out made it possible to confirm and monitor the different types of SS. This problem also arises in relation to the non-availability and/or non-accessibility to specific treatments for the management of certain symptoms such as pulp ulcers, Raynaud's phenomenon.

The extracts of unsaponifiable avocado and soya by general route were used in almost all our patients. In 50% of cases, they were used alone. The therapeutic combinations consisted of the prescription of local or general corticosteroids, vasodilators, antibiotics and other various drugs according to the symptomatology or dominant affection in the SS. In the literature, local or general corticosteroids had been constantly used for different forms of SS [14].

Finally, we had a very high rate of patients lost from sight. Twelve point nine (12.9%) of patients with SS were lost from sight after an average follow-up of 43.5 days and 6.9% of patients with SL were lost from sight after 17 days on average. We believe that this severe loss is related to the difficulty to manage chronic pathologies in general and the absence of a well codified treatment of scleroderma, since the therapeutics used only slow down the course of the disease without guaranteeing a definitive cure.

Conclusion

Our study confirms the scarcity of scleroderma in black Africa and whose peculiarity of genetically pigmented skin is a confetti skin bleaching. Moreover, it raises the problem of diagnostic and therapeutic difficulties for technical and economic reasons.

Conflicts of Interest

The authors declare no conflict of interest.

Author Contributions

All authors contributed to the writing of the manuscript had read and approved the final version.

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