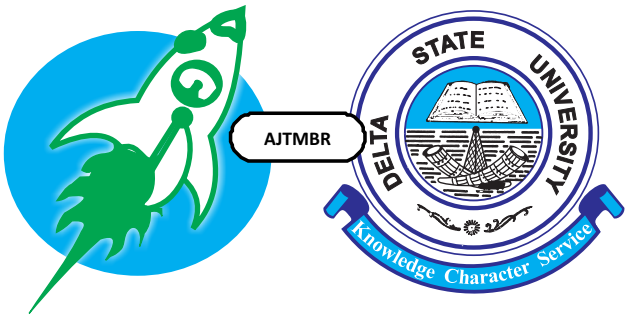
African Journal of Tropical Medicine and Biomedical Research (AJTMBR)



The Journal is the Official Publication of the College of Health Sciences, Delta State University, Abraka, Nigeria.

ISSN: 2141-6397

Focus and Scope

The African Journal of Tropical Medicine and Biomedical Research is a multidisciplinary and international journal published by the College of Health Sciences, Delta State University of Abraka, Nigeria. It provides a forum for Authors working in Africa to share their research findings on all aspects of Tropical Medicine and Biomedical Sciences and to disseminate innovative, relevant and useful information on tropical medicine and biomedical sciences throughout the continent. The journal will publish original research articles, reviews, editorials, commentaries, short reports, case reports and letters to the editor. Articles are welcome in all branches of medicine and dentistry including basic sciences (Anatomy, Biochemistry, Physiology, Pharmacology, Psychology, Nursing etc) and clinical sciences (Internal Medicine, Surgery, Obstetrics and Gynaecology, Dental surgery, Child Health, Laboratory Sciences, Radiology, Community Medicine, etc). Articles are also welcome from social science researchers that document the intermediating and background social factors influencing health in countries of Africa. Priority will be given to publication of articles that describe the application of the principles of primary health care in the prevention and treatment of diseases.

Editorial Notices

The journal will be published biannually in the months of March and September. Annual subscription fee in Nigeria is two thousand naira (N2,000) per volume (2issues); One-thousand-naira single copy (N1000). The annual subscription rate for other parts of the world is as follows: United Kingdom £60 (post free). West Africa $60 (post free). The rest of the World and the United States of America $120 (post free). A charge of $60 is made for reprints inclusive of postage. Cheques should made payable to the African Journal of Tropical Medicine and Biomedical Research and addressed to the Editor-in-Chief.

Journal Contact

All correspondence, including manuscripts for publication (in triplicate) should be addressed to:

Professor P.S. Igbigbi
The Editor-in-Chief,
Department of Anatomy,
Faculty of Basic Medical Sciences,
College of Health Sciences,
Delta State University, Abraka,
Delta State, Nigeria.

Or:
Professor Lawrence Omo-Aghoja
Editor
Department of Obstetrics and Gynecology,
Faculty of Clinical Medicine,
Delta State University, Abraka, Nigeria.
Email: journalajtmbr@yahoo.com
Cc: all email to
eguono_2000@yahoo.com
Tel: 08039377043

All authors are advised to submit an electronic copy in CD-ROM along with a hard copy of their manuscript, as this will spare remarkable time in the reviewing and typesetting processes.

In the alternative, authors can submit their articles and covering letter by email attachments. A covering letter (signed by all authors) accompanying the manuscript should certify that the article has not been previously published and is not being considered for publication elsewhere.

Information for Authors

All manuscript are peer-reviewed and accepted with the understanding that the work has not been published or being considered for publication elsewhere. Indeed, the authors would be requested

to sign a copyright form transferring the ownership of the paper to the African Journal of Tropical Medicine and Biomedical Research. All articles must include the correct names and addresses of author(s) including e-mail addresses and telephone numbers. Articles will be subjected to a thorough peer review process before any decision is made to publish or not. Authors should note that the African Journal of Tropical Medicine and Biomedical Research is not under any obligation to publish articles submitted, as decision to publish will be based on recommendations of reviewers and the editorial advisory board.

Manuscripts

Articles submitted for publication should be typed double-spaced with 2.5cm margins with accompanying CD-ROM in Microsoft Word format for easy and quick peer review and typesetting. Each of the following sections should begin in a new page: title page, abstract, introduction, materials and methods, results, discussion, acknowledgment (s), references, tables, legends to figures and illustrations. The manuscript should include:

Title Page

The title page should include the following information: 1. the title and sub-title; 2. the name(s) of the author(s); 3. the affiliation(s) of the author(s); 4. name and address of the corresponding author and 5. three to six key words for indexing and retrieval purposes.

Abstract

The abstract should be structured and not more than 250 words. It should carry the following headings: Introduction, Materials and Methods, Results and Conclusion.

Original Research- The journal welcomes articles reporting on original research, including both quantitative and qualitative studies. Full-length articles should generally not exceed 3000 words, excluding abstract, tables, figures, and references. The subject matter should be organised under appropriate headings and sub-headings as itemized above.

Review Articles- Comprehensive review articles on all aspects of tropical medicine and biomedical sciences will also be considered for publication in the journal. Reviews should provide a thorough overview of the topic and should incorporate the most current research. The length of review articles must not exceed 3,000 words and the organisational headings and sub-headings used are at the author's discretion.

Short Reports - Brief descriptions of preliminary research findings or interesting case studies will be considered for publication as short reports. The length of the abstract and article should be restricted to 150 and 2,000 words respectively and organisation of short reports are left to the author's discretion.

Commentaries or Editorials- Commentaries or editorials on any aspect of tropical medicine and biomedical sciences in Africa will be considered for publication in the journal. Opinion pieces need not reference previous research, but rather reflect the opinions of the author(s). The length should not exceed 2,000 words.

Tables and Figures

All tables and figures should be submitted on separate sheets of paper and should be clearly labelled. Coloured tables and figures may be reprinted in black and white. Authors should especially take care that all tables are clear and understandable by themselves, independent of

the text. A reader should be able to read only the tables and easily grasp all information without the text.

Acknowledgments

Acknowledgments should be included on a separate sheet of paper and should not exceed 100words. Funding sources should be noted here.

References

References should be in the Vancouver style and numbered consecutively in the order in which they are mentioned in the text. Titles of journals should be abbreviated according to the Index Medicus style. Authors must cross-check and make sure that all information provided in the reference list is complete and correctly written. Reference numbers should be inserted above the line on each occasion a reference is cited in the text, e.g., … as 1-3 reported in other studies. Numbered references should appear at the end of the article and should include the names and initials of all authors. The format of references should be as published by the International Committee of Medical Journal Editors in the British Medical Journal 1988, volume 296, pages 401-405. The following are sample references for an article published in a journal and for a book: Ahmed Y, Mwaba P, Chintu C, Grange JM, Ustianowski A, Zumla A. A study of maternal mortality at the University Teaching Hospital, Lusaka, Zambia: the emergence of tuberculosis as a major non-obstetric cause of maternal death. Int J Tuberc Lung Dis 1999; 3: 675-680. Whitby LG, Smith AF, Beckett GJ. Enzyme Tests in Diagnosis. In: Lecture Notes on Clinical Chemistry. Whitby LG, Smith AF & Beckett GJth (eds). 4 editions. Blackwell Scientific Publications. 1988. 103-127.

Units of Measurement

All measurements should be expressed in SI (Systeme International) Units.

Galley proofs

Corrections of galley proofs should be strictly restricted to Printer's error only. Orders for offprints should be made when the corrected proofs are being returned by the authors. Articles accepted for publication remain the property of the journal and can only be reproduced elsewhere in line with section 5 of the copyright agreement.

Table of Contents

Case Report

Lichen Sclerosus in Extremes of Age: A Report of Two Cases in Skin of Colour in a Secondary Health Facility in South-South, Nigeria

Sokunbi AE[1], Omenai SA[2]

ABSTRACT

Lichen sclerosus (LS) is a chronic dermatologic condition with a bimodal peak age of occurrence; it is encountered in pre-pubertal paediatric ages and post-menopausal populations. This dermatosis is thought to have an autoimmune basis and has been rarely reported in our environment. Although more common in adults, it can affect individuals of all ages. This case series presents two unique cases of Lichen sclerosus in a 4-year-old female and a 70-year-old female reported in persons with skin of colour, highlighting the variations in presentation, diagnosis, and management in these distinct age groups. This case series also aims to increase awareness about this condition which may likely have be misdiagnosed as other similar dermatoses; thus limiting the case detection rate of this dermatosis in African population.

Keywords: Lichen Sclerosus, Paediatric Age, Elderly, Skin of Colour, Nigeria.

[1] *Department of Internal Medicine, Edo state University, Uzairue.sokunbi.aisha@edouniversity.edu.ng*
[2]. *Department of Anatomic Pathology, Edo state University, Uzairue.omenai.sebastian@edouniversity.edu.ng*

***Corresponding author:** Sokunbi, Aisha E. Department of Internal Medicine, Edo state University, Uzairue. sokunbi.aisha@edouniversity.edu.ng,

INTRODUCTION

Lichen sclerosus otherwise known as lichen sclerosus atrophicus is a relatively uncommon chronic inflammatory dermatosis that is often recurrent and fraught with the possibility of malignant association.[1-7] This dermatosis bears a female preponderance and has been described all over the world; especially in Caucasians.[8, 9] However, there seems to be a dearth of reports of cases among blacks especially in this environment.[3,8,9]

Lichen sclerosus bears several dermatologic manifestations and patterns with overwhelming occurrence in the genitals especially in post-menopausal women[1-8] with topical steroids being the gold standard for treatment.[2,4]

CASE REPORT

CASE 1: A 4-year-old female who was noticed to have developed whitish atrophic lesions on the vulva with associated mild discomfort and itching. The lesion was noticed to have progressively increased in size over 3 months; necessitating the visit to the dermatologist. Further history revealed the appearance of a similar lesion on the trunk about a year prior, which resolved without treatment. There was no family history of similar lesions and no other history suggestive of autoimmune disease in this patient.

Examination revealed well-defined depigmented patches on the vulva spreading to the labia majora and perineum posteriorly; with a shiny, atrophic surface. The diagnosis of Lichen sclerosus was

confirmed by histology to exclude the possibility of other differential diagnosis.

Patient was commenced on emollients and topical 0.05% clobetasol propionate with complete resolution of symptoms (Fig. 2) while the steroid was tailed off after one month.

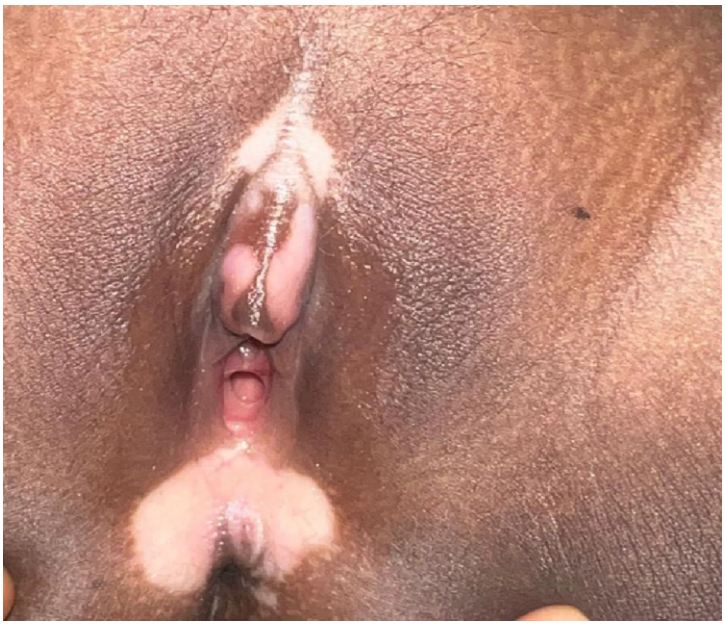


FIG:1

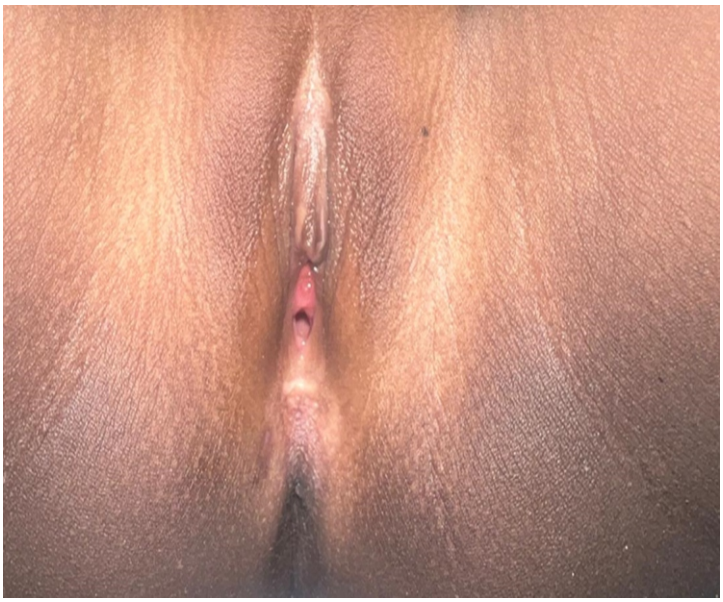


FIG:1

CASE 2: A 70-year-old post-menopausal female who noticed the appearance of white patches on the vulva area which grew larger; extending to involve the labia minora. There was associated marked discomfort, pruritus and pain on urination. Itching was severe with occasional associated soreness of the area. There was no history suggestive of weight loss or malignancy; though dyspareunia could not be ascertained as she had not been sexually active for many years.

Examination revealed a depigmented patch on the labia majora extending to the labia minora with associated background erythema.

Urinary tract infection was excluded after investigations and the diagnosis was confirmed by histology which also excluded possibility of malignant association. She improved remarkably after the commencement of topical 0.05% clobetasol propionate, emollients and oestrogen.

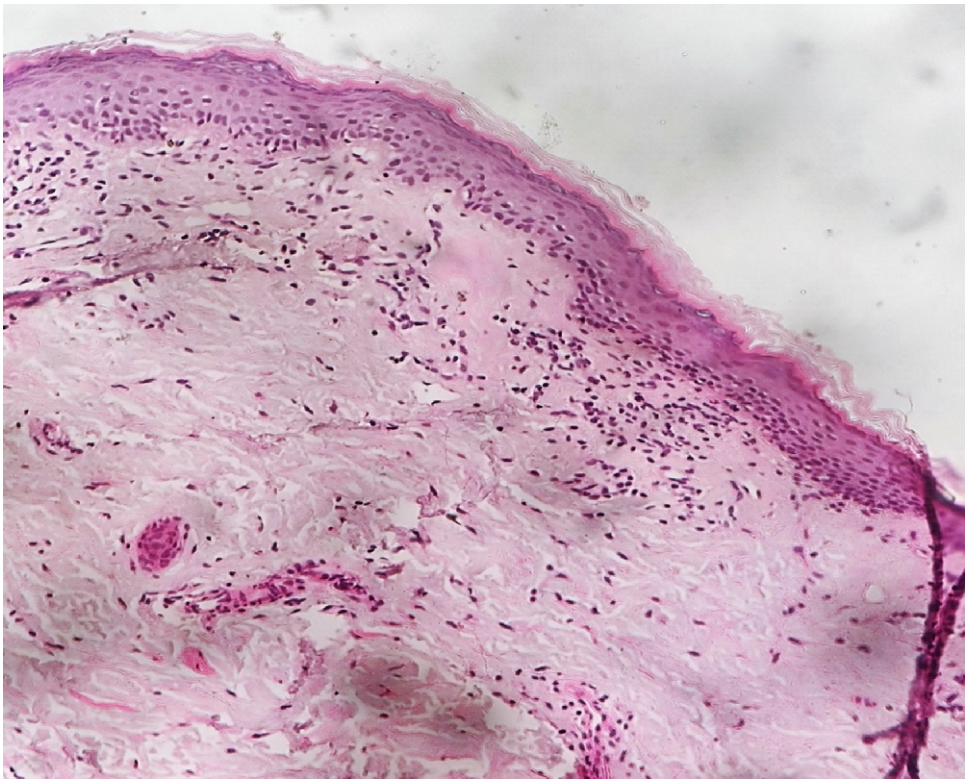


Fig 3: Sections show hyperkeratosis, epidermal thinning with loss of rete ridges with the interface dermal sclerosis intervening between mild to moderate lymphocytic inflammation. (H&E x200)

DISCUSSION

This reviewaims to evaluate previously published reports on the disease, focusing on clinical correlates such as clinical presentation, diagnosis, management, and outcomes. The results from these case reports varied in terms of the type of patients included in the study (demographics), clinical presentation, management strategies, and outcomes.

Generally, regarding the demographics of the study, the majority of the case reports included females, with a high incidence among postmenopausal women. The ages of the patients

included in the study ranged from 15 years to 84 years.[4,10] The affected areas noted in literature included extragenital areas (oral mucosa, hand, leg, breast, trunk, back, shoulder) [1-4,10] and most commonly the ano-genital region.[1-10]

The disease can be asymptomatic as seen in most of the reports;[4, 11] however, the most common presenting symptoms in the studies included itching, bleeding, white atrophic patches/ plaques in the affected areas.[4-7] Additionally, the common method of diagnosis in the studies included histopathological examinations and biopsy of the affected area.[4]

Lichen sclerosus being commoner in females bears a male to female ratio of 1:10 to 1:6 in different environments.[13] In addition, it is commoner among adults, with fewer incidences reported in children. Its estimated incidence is 0.04–0.06% in children compared to 0.1-0.6% in adults.[12-14] In postmenopausal women, the estimated incidence is 1:1000.[2]

Lichen sclerosus has been described in many ethnicities as a chronic inflammatory dermatosis of unknown aetiology [1-5] which is 10 times commoner in females[8,10] with associated bimodal peak of occurrence.[4] The condition has been described in about 3% of post- menopausal women.[5] while in paediatric populations where it is thought to be under-diagnosed;[2] the reported prevalence is about 6- 10 %. [5, 6] Although few studies have reported Lichen sclerosus in skin of color, not many are from this environment. There appears to be an underreporting in our environment because some studies have reported contrary prevalence among black Americans.[15] This study conducted among subjects with skin of colour, identified vitiligoid Lichen sclerosus to be commoner in this population. This is similar with case 1 presented as the lesions were mostly perineal depigmented patched that could be confused with Vitiligo, necessitating confirmation by histology. There is therefore a possibility that depigmented patches may be clinically diagnosed as vitiligo which coincidentally also responds to topical steroids. Also, the cases identified in this series corresponds with the classical epidemiological characteristics of Lichen sclerosus where the first case was a young pre-pubertal female and the other a post-menopausal woman.

The etiology of Lichen sclerosus is largely unknown. However, it has been associated with many factors such as hormones, trauma (Koebner phenomenon), infections such as; human papilloma virus, hepatitis C virus, Borrelia and asymptomatic mycobacterial infection, drugs, auto-immune conditions including thyroid diseases, Pernicious anaemia, vitiligo, psoriasis; and atopic dermatitis, and diabetes mellitus with the disease. [2, 4,8] Pre-pubertal Lichen sclerosus has been associated with auto-immune diseases in about 6.6% of cases.[2]

About 56% of cases reported in literature are known to carry familial association. A case report by Doulaveri et al. in 2013 suggested genetic role in the etiology of the disease; reporting vulvar Lichen Sclerosus in Monozygotic Twin Women. The affected areas were predominantly in the anogenital region, and there was no preceding trauma in the genital region.[16]The most significant discovery in the study indicated that their father and mother suffered from various forms of Lichen sclerosus, such as balanitis xerotica obliterans and lichen sclerosus et atrophicus, respectively. [16] Similarly, another study on 1052 patients in 2010 found that 12% of the participants had family history of LS.[17] Additionally, the report was in line with two studies conducted in 1994 and 2006 also had cases of familial LS. Furthermore, a clear evidence of associated HLA markers in Lichen sclerosus was

reported in the literature.[18, 19] The HLA- types include HLA –DQ 7 (seen in 60% of females), HLA- D7 (in 60% of females), 8 and 9; HLA-DR-12. Affected subjects were also found to test negative for HLA-DR17.[2,4]

Other evaluated case reports involved the incidence of LS in extragenital areas.[20-23] As discussed previously in this section, the disease was asymptomatic in these reports, and dermoscopy was useful in diagnosing the condition in a reported case where the lesion was present on the hand, while biopsy was used in the rest of the studies. After applying various treatment procedures, significant improvements were seen in the occurrence of Lichen sclerosus in the affected areas.[4]

Several clinical manifestations of the disease have been described in literature. The classical presentation is depigmented/ ivory-coloured lesion with associated skin atrophy which can be found in both genders. [1-10] The lesions of Lichen sclerosus are most commonly located on the anogenital region[4,5] (even extending into the vagina in females) as seen in both cases reported. These lesions are often associated with itching, pain, discomfort, dyspareunia and itching in the vulva. 79% of post –menopausal women with lichen sclerosus have been reported to be saddled with chronic vulva pain.[4] However, several reports of other patterns of the dermatosis have been described in other parts of the body such as the face, neck and trunk; with generalized lesions also described in literature.[3, 4, 10] Asymptomatic plaques on the breasts in both males and females have also been noted.[11] Rarer forms of the dermatosis have been reported in the form of bullous, haemorrhagic lesions.[10,23]

Asides females, the dermatosis has been described in male genitalia with lesions extending to the urethra and associated with urethral and penile cancers while also reflecting a possibility of association with vagina cancer and pre-malignant vagina intra-epithelial neoplasia in females.[1,5,4] This raises the need for proper evaluation and follow-up of patients with Lichen sclerosus especially in elderly where there is a high risk of transformation. Our second case was seen in an elderly woman, hence need for keen follow up.

Due to the recurrent nature of Lichen sclerosus and its frequently associated morbidities, issues with sexual difficulties often arises which can significantly impact on self-esteem and quality of life; both in pre-pubertal females as they mature into becoming sexually active and post-menopausal females who can be plagued by these sexual challenges and attendant discomfort in their genitalia. A study by Jablonowska et al in Italy showed significant impact on sexual quality of life, diminished work productivity and higher rate of depression among affected women.[5] The association of LS with sexual life was also shown in a case report by Vettorazzi et al. in 2021.[24] This report was on a 69-year-old woman who had a history of intractable genital disease for over 20years.[24] Topical application of retinoids and testosterone, as well as the intramuscular injection of testosterone, were tried with limited success. The treatment process was further complicated by cases of dermatitis, sclerosis, and bleeding, in addition to the persistence of vulvar pruritus at age 52.[24] She has also experienced dyspareunia, low esteem with the aesthetics of her vulva, and pain after sexual intercourse. [24] This was corroborated in three studies by Haefner et.al in 2014, Cheng et.al in 2016 and Yildiz et.al in 2020, which showed the high incidence of sexual dysfunction in patients with Lichen sclerosus.[25-27] However, history of sexual difficulty could not be ascertained in the elderly patient (Case 2) because she had not been sexually active for years prior to onset of symptoms.

Diagnosis of the condition is usually clinical; however, skin biopsy and histology may be needed to confirm the diagnosis and exclude possible differential diagnosis.[4,10] Although some cases may be asymptomatic, treatment is often required to ease debilitating symptoms. Also, because of the likelihood of malignant transformation, lesions should be treated and patient followed up in case of possible transformation which can be seen in 4 – 6.7 % of cases.[4] Dermoscopy has recently been found to be a useful non-invasive diagnostic tool in Lichen sclerosus. Common dermoscopic patterns identified in Lichen sclerosus include follicular plugging with comedone –like openings and scales, rainbow pattern, grey-blue dots, usually with a characteristic peppered arrangement, corresponding to dermal melanophages, were also frequently seen. Others include presence of talangiectasias, whitish areas which represent areas of skin atrophy and fibrotic beams which are indications of a sclerosed dermis.[4,8,28,29]

Treatment involves the use of topical clobetasol as its first line,[2] which is gradually tapered off with clinical improvement. This has been found to be effective in many cases as exemplified in the two cases presented. Recalcitrant forms of the disease with poor response to steroids can be managed by the use of calcineurin inhibitors, retinoids, oral and intralesional steroids.[4, 8, 9, 30] Other treatment modalities are the use of fractional CO_2 laser, use of platelet rich plasma, photo-dynamic therapy and use of high frequency ultrasound. These have been tried with variable results. Cases of malignancies have been approached with surgery, radiotherapy and chemotherapy. Surgical maneuvers include surgical lysis of adhesions, perineoplasty and urethroplasty.[4]

In conclusion, lichen sclerosus is a chronic inflammatory dermatosis which can affects all ages especially in extremes of life. Its occurrence has been under-reported in skin of colour and largely so in our environment. Its presence can be debilitating and impacts on quality of life of affected subjects; with a potential for malignant transformation and associated with depression and low productivity especially in females. This calls for a more holistic approach in its management with a multi-disciplinary approach to treatment and more reporting of cases especially in skin of colour which will aid disease surveillance and management.

ACKNWOLEDGEMENT:
We would like to acknowledge the parents of Index case 1 who granted consent to the use of the images in the text for this publication.

CONFLICT OF INTEREST:
The authors declare no conflict of interest.

REFERENCES

1. Wang J, Zhang W, Li, X. The Diagnosis and Treatment of Lichen Sclerosus and Bulbous Urethral Squamous Cell Carcinoma: A Case Report. American journal of men's health. 2020;*14*(6). 1557988320982710. https://doi.org/10.1177/1557988320982710
2. Gocev G, Nikolovska S, Dohcheva-Karajovanov I. A Pediatric Case of Disseminated Lichen Sclerosus – a Case Report. Serbian Journal of Dermatology and Venereology. 2017; 9(1), 3917.9-13. https://doi.org/10.1515/sjdv-2017-0002
3. Jacyk WK, Isaac F. Lichen sclerosus et atrophicus in Nigerians. J Natl Med Assoc. 1979;71(4):387-388. PMID: 439173; PMCID: PMC2537362.
4. Krapf JM, Mitchell L, Holton MA, Goldstein AT. Vulvar Lichen Sclerosus: Current Perspectives. Int J Womens Health. 2020;

15(12):11-20. doi: 10.2147/IJWH.S191200. PMID: 32021489; PMCID: PMC6970240.

5. Jabłonowska, O., Woźniacka, A., Szkarłat, S., & Żebrowska, A. Female genital lichen sclerosus is connected with a higher depression rate, decreased sexual quality of life and diminished work productivity. *PloS one*. 2023;18 (4), e0284948. https://doi.org/10.1371/journal.pone.0284948
6. Kirtschig G. Lichen Sclerosus-Presentation, Diagnosis and Management. Deutsches Arzteblatt International. 2016; 113(19): 337–343. https://doi.org/10.3238/arztebl.2016.0337
7. Micheletti L, Preti M, Radici G, Boveri S, Di Pumpo O, Privitera SS, Ghiringhello B, Benedetto C. Vulvar Lichen sclerosus and neoplastic transformation: a retrospective study of 976 cases. *J Low Genit Tract Dis.* 2016; 20:180–`183.
8. Marfatia, Y., Surani, A., & Baxi, R. Genital lichen sclerosus et atrophicus in females: An update. *Indian journal of sexually transmitted diseases and AIDS*. 2019; *40*(1): 6–12. https://doi.org/10.4103/ijstd.IJSTD_23_19
9. Chi, C. C., Kirtschig, G., Baldo, M., Brackenbury, F., Lewis, F., & Wojnarowska, F. Topical interventions for genital lichen sclerosus. *The Cochrane database of systematic reviews*. 2011; 12. CD008240. https://doi.org/10.1002/14651858.CD008240.pub2
10. Yu-Hua L, Yu-Hung Wu. Extragenital Bullous Lichen Sclerosus: A Case report and Literature. Dermatologica Sinica. 2014; 32:169-171.
11. Padmavathy L, Lakshmana Rao L, Dhana Lakshmi M, Sylvester N, Ethirajan N. Lichen Sclerosus Atrophicus [LSA] in the Areolae: A Case Report. Case Rep Dermatol Med. 2012; 2012:825963. doi: 10.1155/2012/825963. PMID: 23259089; PMCID: PMC3504285.
12. Tong LX, Sun GS, Teng JMC. Pediatric lichen sclerosus: a review of the epidemiology and treatment options. Pediatr Dermatol. 2015; 32(5):593-599
13. Kyriakis KP, Emmanuelides S, Terzoudi S, Palamaras I, Damoulaki E, Evangelou G. Gender and age prevalence distributions of morphea en plaque and anogenital lichen sclerosus. J Eur Acad Dermatol Venereol. 2007; 21 (6):825-826.
14. Kizer WS, Prarie T, Morey AF. Balanitis xerotica obliterans: Epidemiologic distribution in an equal access health care system. South Med J. 2003; 96(1):9-11
15. Catherine CN. Case Link Vitiligoid Lichen Sclerosus and Darker Skin. MDEdge Paediatric journal. 2018.
16. Doulaveri G, Armira K, Kouris A, Karypidis D, Potouridou I. Genital vulvar lichen sclerosus in monozygotic twin women: a case report and review of the literature. Case Rep Dermatol. 2013; 5(3):321-325. doi: 10.1159/000356775. PMID: 24348381; PMCID: PMC3843921.
17. Sherman V, McPherson T, Baldo M, et al: The high rate of familial lichen sclerosus suggests a genetic contribution: an observational cohort study. J Eur Acad Dermatol Venereol 2010; 24:1031–1034se, 21, 145-149.
18. Sahn EE, Bluestein EL, Oliva S. Familial lichen sclerosus et atrophicus in childhood. Pediatr Dermatol. 1994;11(2):160-3. doi: 10.1111/j.1525-1470.1994.tb00572.x. PMID: 8041658.
19. Aslanian FM, Marques MT, Matos HJ, Pontes LF, Porto LC, Azevedo LM, Filgueira AL. HLA markers in familial Lichen sclerosus. J Dtsch Dermatol Ges. 2006;4(10):842-847. English, German. doi: 10.1111/j.1610-0387.2006.06087.x. PMID: 17010173.
20. Jiménez Y, Gavaldá C, Carbonell E, Margaix M, Sarrión G. Lichen sclerosus of the oral

mucosa: A case report. Med Oral Patol Oral Cir Bucal. 2008;13(7):E403-406.
21. Khatib J, Wargo JJ, Krishnamurthy S, Travers JB. Hemorrhagic Bullous Lichen Sclerosus: A Case Report. Am J Case Rep. 2020; 21:e919353. doi: 10.12659/AJCR. 919353. PMID: 33024070; PMCID: PMC7552941.
22. Nóbrega MM, Cabral F, Corrêa MC, Barcaui CB, Bressan AL, Gripp AC. Lichen sclerosus associated with localized scleroderma: dermoscopy contribution. An Bras Dermatol. 2016;91(4):534-536. doi: 10.1590/abd1806-4841.20164813. PMID: 27579757; PMCID: PMC4999120.
23. Arnold N, Manway M, Stephenson S, Lipkin H. Extragenital bullous lichen sclerosus on the anterior lower extremities: report of a case and literature review. Dermatol Online J. 2017;23(6):13030/qt8dn3p7kv. PMID: 28633746.
24. Vettorazzi, J., Valério, E.G., Perez, A.V., Sbaraini, M., Segat, L., Vetori, D.V., Grossi, F.S. and Magno, V.A. The Effects of Lichen Sclerosus and Its Treatments on Sexuality: Case Report. Open Journal of Obstetrics and Gynecology. 2009;9:755-763. https://doi.org/10.4236/ojog.2019.96075
25. Haefner HK, Aldrich NZ, Dalton VK, Gagné HM, Marcus SB, Patel DA, Berger MB. The impact of vulvar lichen sclerosus on sexual dysfunction. J Womens Health (Larchmt). 2014;23(9):765-770. doi: 10.1089/jwh.2014.4805. PMID: 25162790; PMCID: PMC4158972
26. Cheng, H., Oakley, A., Conaglen, J. and Conaglen, H. Quality of Life and Sexual Distress in Women with Erosive Vulvovaginal Lichen Planus. Journal of Lower Genital Tract Disease. 2017;21(2):145-149.
27. Yıldız Ş, Cengiz H, Kaya C, Alay İ, Öztürk E, Tunca AF, Erdoğan A, Yaşar L. Evaluation of genital self-image and sexual dysfunction in women with vulvar lichen planus or lichen sclerosus. J Psychosom Obstet Gynaecol. 2022;43(2):99-106. doi: 10.1080/0167482 X.2020.1857359. Epub 2020 Dec 10. PMID: 33297796
28. Dermoscopic Features of Vulvar Lichen Sclerosus in the Setting of a Prospective Cohort of Patients: New Observations. Alessandro Borghi, Monica Corazza, Sara Minghetti, Enzo Bianchini, Annarosa Virgili. *Dermatology*. 2016;232 (1): 71–77. https://doi.org/10.1159/000439198
29. Alessandro Borghi, Monica Corazza, Sara Minghetti, Giulia Toni, Annarosa Virgili. Clinical and dermoscopic changes of vulvar lichen sclerosus after topical corticosteroid treatment. The Journal of Dermatology. 2016; 43 (9): 1078 – 1082.
30. Xavier J., Vieira-Baptista P., Moreira A., Portugal R., Beires J., Tanos V. Vaginal lichen sclerosus: report of two cases. *Facts, views & vision in ObGyn*. 2017; *9*(3):171–173.

How to Cite: This article should be cited as: Sokunbi AE, Omenai SA Lichen Sclerosus in Extremes of Age: A Report of Two Cases in Skin of Colour in a Secondary Health Facility in South-South, Nigeria Afr. J. Trop. Med. & Biomed. Res. 2023; 6(2): 101-108. *https://dx.doi.org/10.4314/ajtmbr.v6i2.7*