

## **Epidemiological, Clinical and Therapeutic Profile of Syringomas at a Tertiary Centre, in Southern Nigeria**

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### **Authors' contributions**

*This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.*

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### **ABSTRACT**

**Background:** Syringomas are benign skin tumours that occur commonly amongst women and are of cosmetic importance because they commonly affect the face. This can affect the quality of life and social interactions with others. They are commonly managed medically but could also require surgical intervention. Few studies have been carried out on syringoma worldwide and the exact prevalence in the different countries or continents has not yet been determined from available published data, which are mainly hospital based studies. In Nigeria, only few case reports have focused on syringoma hence the essence of this study.

**Objective:** This study aimed to assess the clinical and epidemiological findings of patients with syringoma attended at a tertiary centre in Southern Nigeria.

**Methods:** A retrospective cross-sectional and descriptive analysis of patients with syringoma attended within a ten year period at the Dermatologic Outpatient Clinic (DOPC) of the University of Port-Harcourt Teaching Hospital (UPTH) was carried out. Clinical and epidemiological findings were considered and analysed with IBM corp Statistical Package for Social Sciences (SPSS) 20. The level of significance was set at 0.05."

**Results:** Thirty four individuals were included. The average incidence of syringoma detected over the ten year period was approximately 0.03%. The F: M ratio was 2:1 with no statistical

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significance across age and sex. The mean age of onset was  $27.312 \pm 7$  ranging from 5 to 62 years. The average duration of lesions prior to the diagnosis was 4.9 years; ranging from 3 months to 15 years. The standard deviation (SD) at 95% Confidence interval (CI) was  $4.95 \pm 1.68$ . Multiple sites were noticed in about 14.7%(5) of cases while a single site was observed in 29.4 % (10) of cases, and a majority 55.9%, (19) had no specified documented sites. They were predominantly seen around the eyelids and on the face. About 90% of cases documented were normochromic while the rest were hyperpigmented.

**Conclusion:** Syringoma though benign, is not a common dermatosis among this population. Patients can present at the skin clinic for cosmetic reasons or associated complications such as pruritus and superimposed infection.

*Keywords: Syringoma; epidemiologic; dermatologic.*

## 1. INTRODUCTION

Syringomas are benign tumors of cutaneous appendages of eccrine or apocrine origin affecting approximately 1% of the population. They mainly occur in females in adolescent years and they commonly manifest as soft normochromic or slightly yellowish papules on the lower eyelid and the upper part of the cheeks, which may be mistaken for xanthelasma, basal cell carcinomas or trichoepitheliomas especially in Caucasians [1-3,4]. 'Syringoma' is taken from the Greek word syrx which means pipe or tube. It is also defined as a non-cancerous growth caused by hyperactive glands [2,3]. The term syringoma can also refer to chondroid syringoma which is also known as a cutaneous mixed tumour which could also be of eccrine or apocrine origin. It is of different histologic appearance from that of the eruptive syringoma [5]. On histology these lesions are found in the superficial dermis, where several ducts are found some of which have elongated tails of epithelial cells that resemble tadpoles [1,4-6].

## 2. METHODOLOGY

This study was carried out at the dermatology outpatient clinic of the University of Port Harcourt Teaching Hospital Alakahia, Rivers State, Nigeria. The study population consisted of newly diagnosed cases of syringoma seen over a ten year period from January 2006-December 2015. The clinic is a weekly one and is run by consultant dermatologists. All clinical diagnoses of syringoma were included in the study. The folders were retrieved by convenience sampling and their clinical information including biodata, clinical presentation and management were entered in a pre-form developed based on established scientific knowledge of syringomas.

The retrieved data were initially entered into a computer-based template and exported to IBM Statistical Package for Social Sciences 20 for statistical analysis. Descriptive statistics using means, standard deviation, frequencies and proportions were applied as appropriate. Tables and charts were used to improve data visualization and comprehension. Inferential statistics using chi square test was employed to determine significant differences in proportions of the age categories across the sex of the patients. The level of significance was set at 0.05.

## 3. RESULTS

The study population consisted of 34 newly diagnosed cases of syringoma out of 5961 new dermatology disorders. The F: M ratio was 2:1 with no statistical significance across age and sex. The male and female representation for each year can be seen in Fig. 1. The average incidence of syringoma over the ten year period was approximately 0.03% of the new dermatology diagnoses. The incidence for each year can be seen in Fig. 2. All patients that presented to the DOPC were mainly from the Southern ethnicities of Nigeria with no statistical significance amongst them. The associated medical disorders commonly seen with syringoma cases in this study can be seen in Table 1. The mean age of onset was  $27.3 \pm 12.7$  ranging from 5 to 62 years. The average duration of lesions prior to the diagnosis was 4.9 years; ranging from 3 months to 15 years. The SD at 95% CI was  $4.95 \pm 1.68$ . The frequency of the range of duration prior to clinical presentation can be seen in Table 2. The frequency of the different location of syringoma on the patients is shown in Fig. 3, it also shows the frequency of the different types of syringoma. Multiple sites were noticed in about 14.7 % (5) of cases while a single site was observed in 29.4 % (10) of cases,

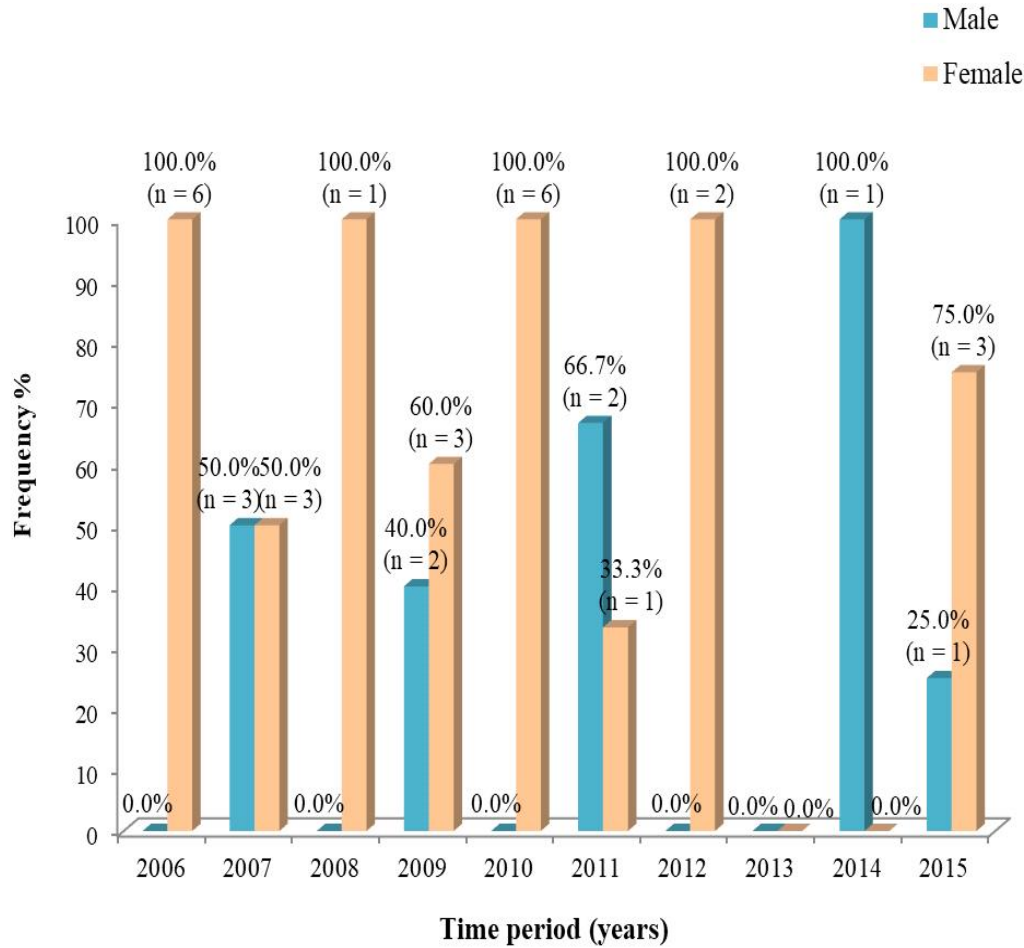
and a majority 55.9% (19) had no specified sites written in the folders. About 90% of cases documented were normochromic while the rest were hyperpigmented. The diagnosis was mainly clinical. Acne 15.2% (5), Dermatitis papulosa nigricans(DPN) 12.1%(4) and pruritus 6.1%(2) were the commonest skin problems also encountered in patients with syringomas. The clinical management of the patients is summarized in Fig. 4.

**4. DISCUSSION**

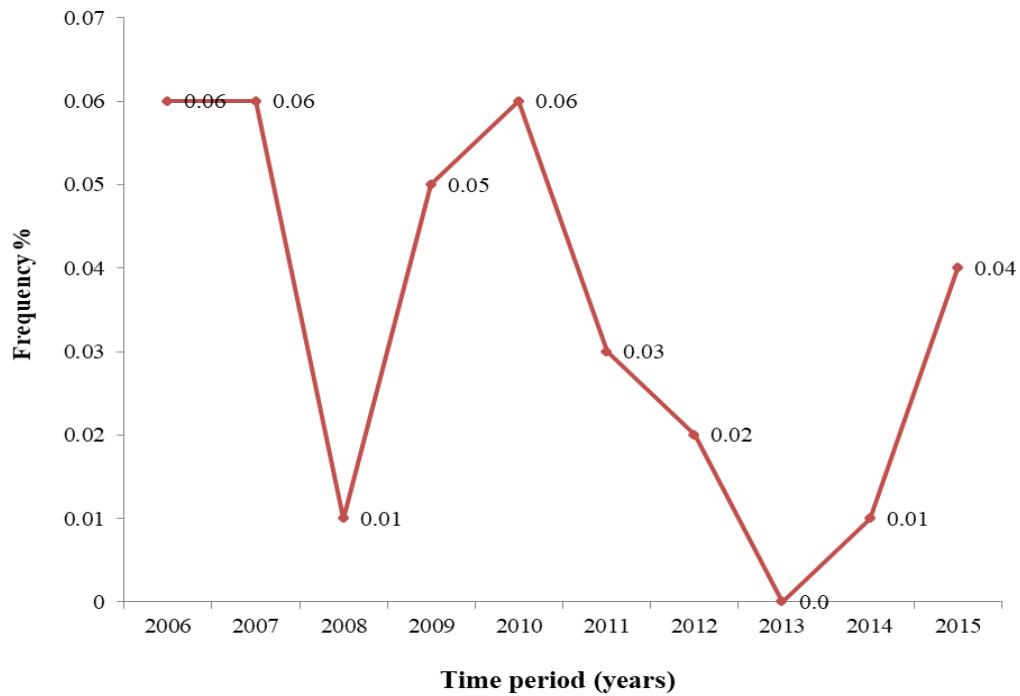
The average incidence of syringoma in this study shows that though syringoma is an uncommon benign lesion, it can be a reason to seek care in a few persons. The reasons for seeking care may be due to cosmetic reasons or it may be due to complications like infections or pruritus. The

incidence in this study is smaller, when compared to that of the general population which has the prevalence as 1% [4]. Females were more affected as was seen in other studies [5-7].

Hypertension was the commonest associated chronic illness as seen in another study, [7] however this was not significant in relation to syringoma, and can be explained by the fact that the study population was black and comprised an older age group, which are risk factors for hypertension. Syringomas can also run in families as seen in this study that had less than 1% of patients having a positive family history. Eruptive syringoma was the commonest type of presentation as seen in other studies [8,9]. Although regarded as rare, it is a common presentation in Africans [6] with the plaque type not being common as seen in other studies [7-8].



**Fig. 1. Distribution of sex of patients with syringoma**



**Fig. 2. Ten year trend showing the incidence rate of syringoma in a dermatology clinic**

**Table 1. Medical history of the syringoma patients**

Variables*	N	%
<b>Family history of syringoma</b>		
Yes	1	2.9
No	33	97.1
<b>History of Hypertension</b>		
Yes	4	11.8
No	30	88.2
<b>History of Peptic Ulcer Disease</b>		
Yes	1	2.9
No	33	97.1

**Table 2. Duration of lesion (syringoma) prior to the diagnosis, frequency and percentage**

Duration of lesion	Frequency (N)	Percentage (%)
<1 year	5	14.8
1 – 5 years	8	23.5
6 – 10 years	8	23.5
>10 years	1	2.9
Unspecified	12	35.3
Total	34	100.0

Syringoma can be a chronic skin problem with patients waiting several years before seeing a dermatologist because of the common mistake of it being misdiagnosed as acne. In our study the mean age of presentation was 27 years which is comparable to Ghanadan & Khosravi’s study who found an average of 27.6 years [8]. This was

lower when compared to the study done by Patrizi et al. [9] who had a mean of 40 years and Ciartoni et al. [10] who had a mean age of 42 years [9,10]. The mean duration before presentation to the clinic was 4.9 years in this study, and was slightly lower when compared to Ghanadan & Khosravi’s study that had 6 years

as the mean duration of lesions before clinical presentation [8]. The range of lesion duration prior to clinical presentation was lower than that of Patrizi et al. [9] study which was 1-25 years. This difference might have been influenced by the older ages of patients seen in Patrizi's study which had a range of 11-78 years when compared to this study that had patients aged 5-62 years [9]. Presentation to the clinic may be affected by the fact that syringoma is a benign lesion with no major problems apart from its cosmetic significance. Majority were normochromic and the colour variation may not be easily noticeable since the patients are all of African origin which are known to have darker skin pigments, however there could be post inflammatory hyperpigmentation if the lesions have been tampered with. The lower eyelids was the most commonly affected single site as seen in other studies [8-10]. The exact reason why it occurs more frequently at this site is not clearly understood. In this study, making the diagnosis of syringoma was mainly clinical. The reason for

not doing skin biopsy might be due to the relatively expensive cost of skin biopsy, fear of scars on the face post biopsy, where most lesions occurred and the ease of making the diagnosis from clinical examination; however clinical diagnosis alone has been noted to be incorrect as seen in studies where histopathological investigations were carried out [8-11]. Unlike other studies, acne and DPN were not the commonly associated skin problems. Ghanadan & Khosravi's study showed calcinosis cutis and sarcoidosis as other skin manifestations. Patrizi's et al. [9] demonstrated amelanocytic naevus and Down syndrome [8,9]. Pruritus being an association of syringoma has been controversial in different literature. Pruritus has been described as an accompanying feature in one patient by Patrizi et al. [9] and in fourteen cases by Ciarloni et al. [10]. Other literature however, have a contrary opinion on pruritus being associated with syringoma; their school of thought is that pruritus occurring with syringoma is not likely to be syringoma [6].

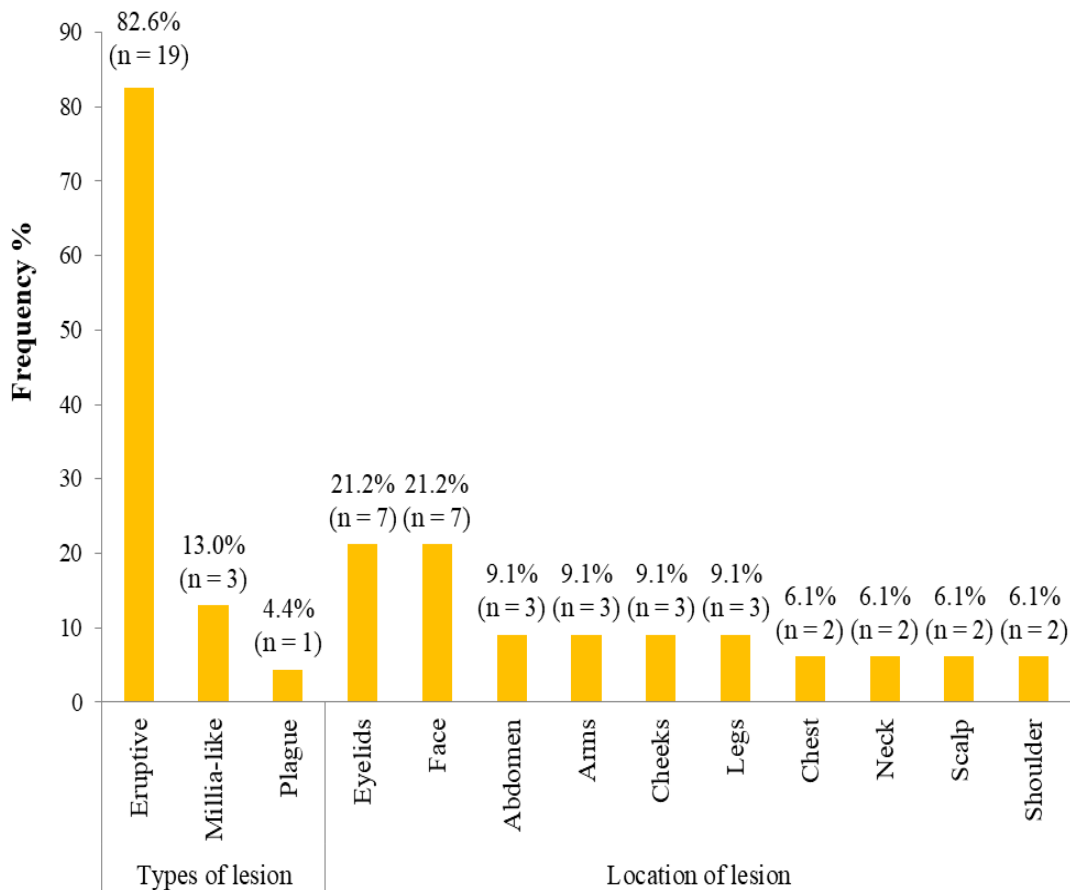
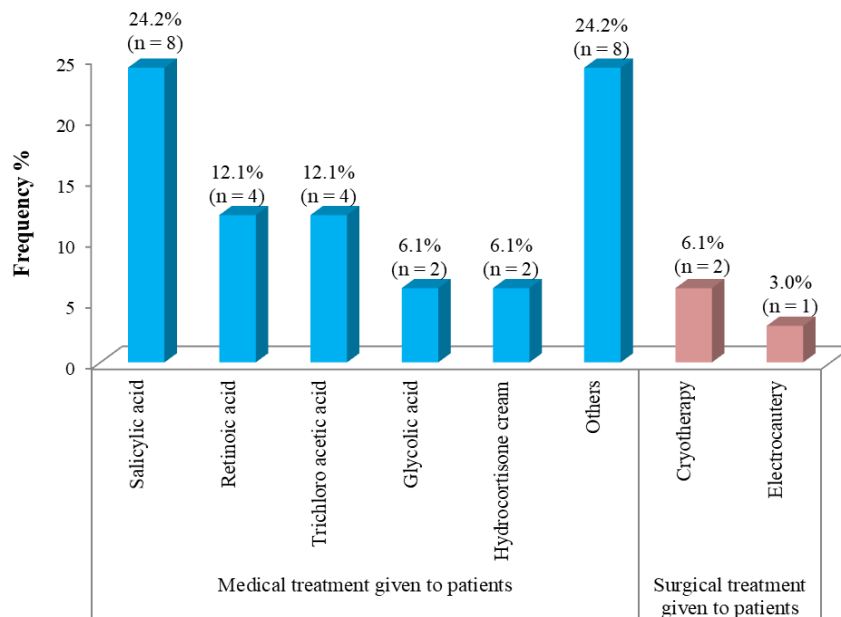
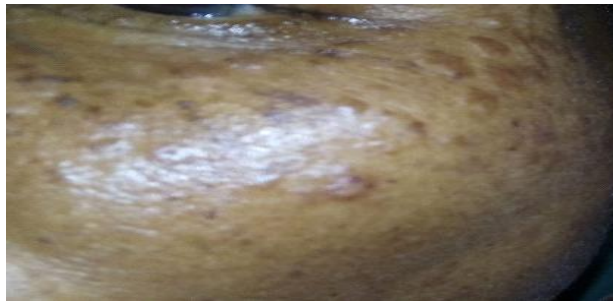


Fig. 3. Types of lesion and location of lesion in patients with syringoma



**Fig. 4. Distribution of medical and surgical treatment given to patients with syringoma**



**Plate 1. Syringoma below the left eyelid of an elderly patient**

Treatment options may be clinical using chemicals such as salicylic acid, glycolic acid, trichloroacetic acid, oral isotretinoin and topical tretinoin (all used in this sample patients) or surgical using methods such as surgical excision with primary suturing, scissor excision with secondary intention healing, electrocautery, electrodesiccation and curettage, carbon dioxide laser using the pinhole method of application or Er:YAG laser ablation, fractionated carbon dioxide laser ablation, cryotherapy and dermabrasion. The most appropriate treatment should be the most effective with the least complications such as scarring and hyperpigmentation [1,3-6].

About 80% of patients were placed on clinical treatment such as salicylic acid paste, trichloroacetic acid, topical Retin A cream, glycolic acid, 1% hydrocortisone cream with good

clinical response characterized by flattening or disappearance of lesion and easing off pruritus while less than 10% were offered surgical care with referral to centres where laser therapy and other surgical options were available, as this was not so at our centre as seen in other studies [11].

## 5. CONCLUSION

Syringomas were found mainly in women of the younger age group and the diagnosis was clinical in all cases documented. They were predominantly seen around the eyelids and on the face with majority being normochromic. Localized pruritus was the major dermatological manifestation associated with syringomas. Clinical management was the major form of treatment as surgical options were not available. Syringoma is not a common skin presentation but can be a reason to visit the skin clinic due to

cosmetic reasons or associated complication such as pruritus.

## CONSENT

It is not applicable.

## ETHICAL APPROVAL

As per international standard or university standard written ethical approval has been collected and preserved by the author(s).

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## COMPETING INTERESTS

Authors have declared that no competing interests exist.

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