
Clinico-epidemiological and Histopathological Study of Syringoma in Iraqi Patients

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Abstract

Background: Syringoma is common benign tumor of sweat glands causing cosmetic disfigurement. It occurs predominantly in women at puberty or later in life.

Objective: To determine the clinical, histopathological and epidemiological aspects in syringoma.

Patients & Methods: A case-controlled study was conducted in Department of Dermatology and Venereology - Baghdad Teaching Hospital, from Oct. 1991 through June 1991. Fifty patients with Syringoma and 100 individuals as a control group were enrolled in this study. Demographic information and full dermatological examination were done for each patient. Biopsy was carried out for 18 patients and fasting blood sugar was performed in 32 patients.

Results: Fifty patients were included in the present work, all showed typical clinical features of syringoma. Their ages ranged from 8 – 50 years with a mean of 30.4, and the highest number of cases 10(20%) were in age group 21– 25 years. Females [41(82%)] were affected more frequently than males [9(18%)], with a male to female ratio of 1:4.5. A high incidence of infertility among married females 8(32%), and 1(16.6%) of married males was found. A positive family history of syringoma was found in 25 (50%) patients, and a positive family history of diabetes mellitus in 20(40%) of patients. The main sites involved were the lower eyelids alone in 23(46%) of cases, and in association with other sites in 100% of cases. The color of lesions in syringoma were mainly fleshy or skin- colored 30 (60%) of cases. Twenty two (44%) patients had lesions ranging between 15– 30 papules. Histopathology of lesions showed the typical histological features of syringoma. Also 13(72.2%) of patients showed a striking superficial perivascular mononuclear infiltrate. Fasting blood sugar was normal in all patients.

Conclusion: The present study confirmed that syringoma is disease of female, with a high positive family history of diabetes mellitus, while the histopathological examination showed a striking superficial perivascular mononuclear infiltrate,

Keywords: syringoma, Iraqi patients, clinical, histopathological.

Introduction:

Syringoma is a benign skin neoplasm of sweat gland (adenoma of intraepidermal eccrine ducts) that are commonly present as numerous, small, firm, smooth, skin colored, or slightly yellowish papules situated on the face, particularly around the lower eyelids of adults^[1-3]. Women are more commonly affected than men^[2-4]. It is most likely to appear at adolescence, and further lesions may develop during adult life^[1-3].

It has been stated that syringoma has no important clinical significance apart from its cosmetic appearance^[1-4].

Microscopically, is characterized by dilated cystic sweat ducts, some of which have small comma like tails to produce a distinctive picture, resembling tadpoles shape in the upper half of the dermis. Strands of epithelial cells may occur independently of the ducts. The epithelial areas are commonly surrounded by thickened, closely packed collagen bundles. Tubular structures show an inner layer of luminal cells with one or two rows of peripheral cells^[5-9]. From the daily practice, we noticed that syringoma is a cosmetic problem among Iraqi

females, for this reason, we arranged the present work to evaluate the clinical, epidemiological and histopathological aspects of this disease.

Patients and Methods:

A total of 50 patients with syringoma were assessed between October 1990 – June 1991 in the Department Dermatology and Venereology - Baghdad Teaching Hospital.

Also a control sample of 100 healthy individuals was taken from patient's companion attending skin department.

Many of the affected individuals included in this study, attended the skin department complaining of other skin lesions rather than syringoma itself and the latter was a coincidental finding.

A detailed history was taken from each patient with emphasis on the following points: age, sex, marital status and parity, age of onset of the lesions, family history of a similar condition, and positive family history of diabetes. Also any associated skin or systemic diseases in the patients or their families were considered. Symptoms related to syringoma as itching or burning was recorded.

All the patients were examined regarding: the sites

involved, number of lesions, shape and color of lesions. Biopsy was done in 18 (36%) patients, and processed for Haematoxylin and Eosin (H&E) stain. Fasting blood sugar was measured in 32 (64%) patients.

Results

Fifty patients with syringoma were studied, their age range was 8– 50 years with a mean of 30.4 ± 8.5 years. The highest incidence 10 (20%) of patients was in age range from 21– 25 years (**Table .1**).

Table-(1): Age groups involved in patients with Syringoma.

Age group	No. of cases	%
11-15	1	2
16 – 20 year	8	16
21- 25	10	20
26- 30	9	18
31- 35	8	16
36- 40	6	12
41-45	5	10
46-50	3	6
Total	50	100

In control sample of 100 healthy individuals their ages were matched with patients group. Four (4%) individuals were seen to have syringoma with male to female ratio of 1:3.

In syringoma patients there were 41 (82%) females, and 9 (18%) males, with a male to female ratio of 1: 4.5.

Regarding the marital status, 25 (60.9%) of the females were married and of these 17 (68%) had children, and 8 (32%) were infertile, while 6 (66.6%) of the males were married, and one of them (16.6%) had infertility.

Duration of the lesions ranged from less than 1 year to more than 20 years, with a mean value of 6.3 ± 4.8 years, and the age of onset was highest [14

(28%) patients] between age group from 16– 20 years.

Positive family history of syringoma was present in 25 (50%) of cases. Positive family history of diabetes mellitus was present in 20 (40%) of patients.

Many patients complained of its cosmetic appearance, in addition, 12 (24%) of patients had burning and itching mainly during summer time.

There was no increase in the associated skin and systemic diseases with syringoma like hypertension, vitiligo, atopic dermatitis and seborrheic dermatitis.

The sites which were involved with syringoma were as follows: the lower eyelids were involved in all patients (100%) with or without other sites involvement (**Table.2**).

Table-(2): Sites of involvement in patients with syringoma.

Sites involved	No. of cases	%
Lower eyelids alone	23	46
Lower + upper eyelids	18	36
Lower + upper eyelids + cheeks	4	8
Lower + upper eyelids + cheeks + chin	1	2
Lower eyelids + cheeks	2	4
Lower + upper eyelids + cheeks, nose, chin, neck	1	2
Forehead, cheeks, up. & lower eyelids, neck & anterior chest wall	1	2
Total	50	100

The lesions showed different colors, and the majority 30 (60%) were skin or flesh– colored, others as yellowish– grey [3 (6%)], grayish [4 (8%)], yellowish – brown 1 (2%), and pinkish in 2 (4%) patients.

The approximate number of the papules in the patients examined ranged from below 15 to more 100 and they were graded into 5 Grades, the commonest [22 (44%)

patients] were within Grade II (between 15 – 30 papules) (**Table. 3**). Fasting blood sugar was within a normal range in all 32(64%) patients.

The results of histopathology in 18 patients were as follows: All patients showed syringoma on histopathology. The pathological changes were noted only in the superficial dermis; 5 histopathological changes were observed:

- 1-There were multiple ducts similar to the ducts of sweat glands.
- 2-Solid structures were consisting of basophilic epithelial strands.
- 3-The tadpole like appearance.
- 4-Dilated cystic cavities were seen in 12 (66.6%) cases, their walls were flattened; sometimes this wall was flattened on one side but completely degenerated on the other side leaving a thin structure less line. In all these

structures, amorphous material could be seen.

- 5-There was a striking superficial perivascular mononuclear infiltrate ranging from mild to severe, sometimes encroaching upon pilosebaceous follicles. These inflammatory changes were noted in 13 (72.2%) cases.

Clear cells as part of the structure of the duct were noted only in one patient, and giant cells were seen in another case.

Table-(3): No. of lesions (Grades) of patients with syringoma.

No. of lesions	Grade	No. of cases	Percentage
< 15	I	1	2
15 < 30	II	8	16
31 < 50	III	10	20
51 < 100	IV	9	18
100 and above	V	3	6
Total		50	100

Discussion:

Syringoma is an important dermatological problem which often causes cosmetic disfigurement. Little attention has been paid to this disease, so often misdiagnosis is reached and especially confused with xanthelasma^[1-3, 9]. During daily routine practice we see this condition frequently, in contrary to what has been published in the literatures^[1-7,9]. This was confirmed as it was found, in 4(4%) of control sample of healthy individuals .

This disease often affects young adults, and runs a progressive course, then remains stationary for life^[1-7,9]. These findings were confirmed by the present work, as it was found that the mean age affected was 30.4 years, while the onset in the majority of cases[14(28%)] was between 16 – 20 years .

Females showed more tendencies to have this disease than males with a ratio of 2:1^[1-4, 6, 7, 14]. This finding was confirmed by the present work, but with a higher male to female ratio of 1: 4.5. This might be attributed to many factors like sex– linked inheritance, and the effects of female hormones^[1-4, 6, 7, 12, 14-16].

The present study showed an interesting finding that in 31 [25(50%) females & 6 (12%) males] married patients: 8 (32%) of the married females and 1 (16.6%) of the married males were infertile, this is possibly in favor of a hormonal influence. This important finding has not been published before and syringoma could be considered as marker of infertility.

The genetic susceptibility of syringoma was also confirmed by this study as it was found that 25(50%) of the patients had a positive family history of the condition with affection of parents and siblings. This

might suggest an autosomal dominant mode of inheritance, confirming what has been reported. This finding is concordant with other reports of familial occurrence of syringoma^[1-7, 12, 14-17].

A positive family history of diabetes mellitus was found to be high 20 (40%) in patients with syringoma compared to the positive family history of diabetes in Iraqi patients with vitiligo 9(18%)^[18]. This increased incidence of diabetes in the relatives of patients with syringoma has not been mentioned before, and it may be due to factors of genetic inheritance, or to autoimmunity. Although, diabetes mellitus has been reported to be associated with clear cell variety of syringoma^[2, 3].

Most of patients studied presented for cosmetic reasons, however 12 (24%) of them also complained of itching and burning mainly during summer time, these symptoms have also been mentioned in previous reports^[1-4, 6, 7, 13, 14, 19-21], these are probably related to heat and increased retention of sweat.

Syringoma was not found to be associated with any significant dermatological or systemic diseases^[22].

The lower eyelids are constantly recorded as the main sites of involvement in syringoma^[1-4, 6, 7, 19-21], this was confirmed by this study in which the lower eyelids were the only site affected in 23(46%) of cases, and in association with other sites in 100% of cases.

The majority 30(60%) of patients examined had lesions of flesh or skin color, this is in agreement with the reported predominance of skin colored lesions^[1-4, 6, 7].

The approximate number of individual papules in

patients in this study was comparable to those of previous studies ^[1-4,6,7], with the commonest 22 (44%) of patients having between 15– 30 papules.

The histopathological findings of patients with syringoma showed the typical histological features in all cases examined and were comparable to the findings in the literature ^[5,8-13], a part from 13(72.2%) of cases showed a striking superficial perivascular mononuclear infiltrate, and according to this finding it may be justifiable to consider syringoma in the differential diagnosis of conditions with superficial perivascular inflammatory infiltrate ^[5,8-13].

Genetic, epidemiological, clinical, female's preponderance and pathological aspects of the disease are still similar to what had been published previous international studies.

References

- 1-Macki R. Tumors of the Skin Appendages. In: Textbook of Dermatology, Champion RH, Burton JL, Burns DA & Breathmach SM, 6thed, London, Oxford Blackwell Science Lt. Editorial Office, 1998,(2) 37:1695-1715.
- 2- Kaddu S & Kerl H .Appendage Tumors of the Skin. In: Fitzpatrick's Dermatology in General Medicine. Freedberg IM, Eisen AZ, Wolff K, Austen KF, Goldsmith LA and Katz SI.Newyork,6th ed Mc Graw-Hill; 2003, 1,85: 785 - 808.
- 3-Odom RB, James WD, and Berger TG. Epidermal Nevi, Neoplasm's, and Cysts, In: Andrew's Diseases of the Skin: Clinical Dermatology. 9thed, Philadelphia: W. B Saunders Company. 2000 (29): 800-868.
- 4-Tur E. Disorders of the sebaceous, apocrine and eccrine glands. In: Women's Dermatology from Infancy to Maturity. Parisn LC, Brenners & Ramose-Silva M. The Parthenon Publishing Group (International Publishers in Medicine, Science Technology) New York, London, 2001,12:109-120.
- 5-Henner MS, Shapiro PE, Ritter JH, Leffell PJ,W.E MR. Solitary syringoma. Report of five cases and clinicopathological comparative with microcytic carcinoma of the skin Am J Dermatopathol 1995. Oct 17(5), 465-70.
- 6-Patrizi A, Neri I, Marzaduri S, Varotti E, Passarini B. Syringoma: A review of twenty-nine cases. Acta Derma Venereol .1998 Nov., 78(6): 460-2. Pub Med.
- 7-Soler-Carrillo J, Estrach T, Mascaro JM. Eruptive syringoma: 27 new cases and review of the literatures. J Eur Acad Dermatol Venerol.2001May, 15(3), 246-6. Pub Med.
- 8- Elder D, Elenitsas R & Ragsdale BD. Tumors of the Epidermal Appendages. In: Lever's Histopathology of the skin. Elder D, Elenitsas R, Jaworsky C, and Johnson B. 8th ed. Lippincott – Raven Publishers; Philadelphia, New York, 1977, (31):747-803.
- 9-Hurt MA, Sanata Cruz DJ: Adnexal tumors. In: *Diagnostic Histopathology of Tumors*, 2nd ed, edited by CDM Fletcher. Edinburgh, Churchill-Livingstone, 2000, 1378.
- 10-Wick MR & Swanson PE: Cutaneous Adnexial Tumors: A Guide to pathologic Diagnosis. Chicago ASCP press, 1991.
- 11-Maize J: Adnexial tumors .In: *Cutaneous Pathology*, edited by JC Maize, Philadelphia, Churchill-Livingstone, 1998,483.
- 12-Weedon D: Tumors of cutaneous appendages. In *Skin Pathology*, New York, Churchill-Livingstone, 1997,713.
- 13-Karmilov YA. Syringoma Arkh Pathol.1995 Jan-Feb; 57(1):74-5.
- 14-Hsiung SH. Eruptive syringoma. Dermatology Online Journal 2003, 9(4):14.
- 15-Teixeira M, Ferreira M,Machado S, Alves R, Selores M. Eruptive syringomas.Dermatology Online Journal, 2005; 11(3): 34.
- 16-Metze D, Wigbels B, Hildebrand A Familial syringoma: A rare clinical variant. Hautarzt, 2001, Nov; 52 (11): 1045-8.
- 17-Pruzan DL, Esterly NB, Prose NS. Eruptive syringoma. Arch Dermatol. 1998, Aug, 125 (8): 1119-20. Pub Med.
- 18-Sharquie KE. Vitiligo in Iraq, Iraqi Medical Journal. 1987; 35(2): 32-2.
- 19-Kim SJ, Ahn SK, Choi EH and Lee SH. Unilateral cases of syringoma of forehead J Dermatol. 1996 Jan, 23(1): 61-3.
- 20-Chi HI.A case of unusual syringoma: unilateral liner distribution and plate formation, Dermatol. 1996 Jul; 23 (7): 505-6.
- 21-Garcia C, Krunic AL, Grichnik J, Viehman G, Clark RE. Multiple acral syringoma with uniform involvement of the hands and feet.Cutis.1997; April, 59(4): 213-216.
- 22-Goltz RW. Syringoma: In tumors of sweat gland origin. In clinical dermatology by Dermis DJ, JB Lippincott Co.16th revision, sec. 22, Vol. 4. 1989: 1-4.

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