

Cutaneous tumours, tumour like conditions and cysts in Sri Lankans: an analysis of 1181 cases

M V C de Silva¹, R Constantine² and L R Amarasekera³

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Abstract

Objective: To determine the prevalence of different types of cutaneous tumours, tumour like conditions and cysts in surgical excision and biopsy specimens of Sri Lankans.

Method: Histology slides of 1181 cutaneous tumours, tumour like conditions and cysts reported at the University Department of Pathology, Colombo during a 10-year period commencing from 1989 were reviewed.

Results: There were 1024 (86.7%) benign tumours, tumour like conditions and cysts and 157 (13.3%) malignant tumours. Benign lesions included 340 (28.79%) soft tissue tumours, 255 (21.59%) epidermal tumours, 236 (19.98%) follicular cysts, 84 (7.11%) melanocytic naevi and 83 (7.03%) skin appendage tumours. The common soft tissue tumours included haemangiomas and dermatofibromas. The commonest epidermal tumour was seborrhoeic keratosis. Epidermal cysts (78.4%) were the commonest type of follicular cysts, followed by trichilemmal cysts (12.7%). Common skin appendage tumours included pilomatrixoma, syringoma, eccrine spiradenoma and nodular hidradenoma. The common malignant tumours were squamous cell carcinoma, basal cell carcinoma and metastatic deposits.

Conclusion: The common skin tumours were haemangiomas, dermatofibromas, seborrhoeic keratosis and benign melanocytic naevi.

Introduction

Benign and malignant primary tumours of

the skin can originate from the surface epidermis, melanocytes, epidermal appendages, lymphocytes and connective tissue elements of the dermis. The skin is also a site of secondary deposits of malignant epithelial and mesenchymal tumours, lymphomas and leukaemias. The only documentation of malignant skin tumours in Sri Lanka was done by Cooray in 1958¹. Apart from this, there is no documentation of the prevalence of different types of benign and malignant skin tumours, cutaneous cysts and tumour like conditions in Sri Lankans. The objective of this study was to determine the prevalence of different types of cutaneous tumours, tumour like conditions and cysts in surgical excision and biopsy specimens of Sri Lankans.

Method

The records and request forms of all surgical biopsy specimens reported at the Department of Pathology, Faculty of Medicine, Colombo during a 10-year period, commencing from 1989 were reviewed by the second author. All cutaneous tumours and cysts were selected. Tumours located exclusively in the subcutaneous tissue were excluded, but those located in the subcutis with involvement of the dermis or vice versa were selected. Benign cutaneous deposits presenting as tumour masses were included. Cases where the histology slides were not available for review were excluded. The first author reviewed haematoxylin and eosin stained histology slides of 1181 cutaneous tumours, tumour like conditions and cysts. Faded histology slides were restained. Cases where the review diagnosis differed from the origi-

¹Senior Lecturer ³Professor, Department of Pathology, Faculty of Medicine, Colombo.

²Consultant Pathologist, Negombo base Hospital.

nal diagnosis were re-examined by the first two authors at a conference microscope. If a consensus diagnosis was not reached, they were reviewed again with the third author and a final consensus diagnosis made.

Results

There were 1024 (86.7%) benign tumours, tumour like conditions and cysts and 157 (13.3%) malignant tumours. The major categories of benign lesions and malignant tumours are given in Table 1. Details of the various histological types of tumours and tumour like conditions arising from dermal soft tissue and the epidermis are given in Tables 2 and 3. The majority of haemangiomas (55.6%) were pyogenic granulomas. 26.9% were capillary haemangiomas whilst 13.9% were cavernous haemangiomas. Epithelioid haemangiomas (1.9%) and acquired tufted haemangiomas (0.9%) were rare.

The 236 follicular cysts comprised 185 epidermal cysts (78.4% of follicular cysts), 30 (12.7%) trichilemmal cysts, 12 dermoid cysts, 7 steatocystoma multiplex and 2 cases of milia. Many epidermal cysts showed rupture associated with acute inflammation and a foreign body giant cell reaction to keratin. The twenty six benign cutaneous deposits presenting as tumour masses or plaques included, 14 cases of lichen amyloidosis, 3 cases of calcinosis cutis, 3 cases of lymphocytoma cutis, 2 myxomatous nodules, 2 cases of endometriosis, one case of gout and one digital mucous cyst. Most melanocytic naevi were intra-dermal pigmented naevi.

There were 83 skin appendage tumours and hamartomas. The clinical features of these are summarized in Table 4. Details of the various histological types of malignant tumours are given in Table 5.

Table 1. Major categories of benign and malignant cutaneous tumours and tumour like conditions

<i>Benign tumours, cysts and tumour like conditions 1024 (86.7%)</i>			<i>Malignant tumours 157 (13.3%)</i>		
Soft tissue tumours & tumour like conditions	340	(28.79%)	Invasive squamous cell carcinoma	46	(3.9%)
Epidermal tumours & tumour like conditions	255	(21.59%)	In situ squamous cell carcinoma	13	(1.1%)
Follicular cysts	236	(19.98%)	Basal cell carcinoma	38	(3.22%)
Melanocytic tumours	84	(7.11%)	Secondary deposits	22	(1.86%)
Skin appendage tumours	83	(7.03%)	Melanoma	17	(1.44%)
Benign cutaneous deposits	26	(2.20%)	Cutaneous lymphoma	17	(1.44%)
			Malignant skin appendage tumours	3	(0.25%)
			Merkel cell tumour	1	(0.08%)

Table 2. Histological types of benign soft tissue tumours and tumour like conditions and their main clinical features (total number = 340)

<i>Tumour type</i>	<i>Number of cases</i>	<i>Mean age of patients (range of age)-years</i>	<i>Sex ratio M:F</i>	<i>Main sites</i>
Haemangioma	108	34.5 (2-77)	1:1.1	Scalp & face (58.9%)
Dermatofibroma	94	32.6 (6-71)	1:2.2	Breast (27.3%) Trunk (23.4%)
Fibroma (acrochordon)	41	38.6 (8 months-72 years)	1:1.5	Perineum & groin (29.3%)
Cutaneous Neurofibroma	27	41.5 (3-90)	1:1.6	Face & scalp (26.9%)
Xanthoma Juvenile xanthogranuloma	22	27.4 (5 months-60 years)	1.25:1	Face & scalp (31.3%)
Lymphangioma circumscriptum	13	20 (8-30)	3:1	Perineum & groin (42.9%)
Granular cell tumour	7	38.9 (10-59)	1:6	Trunk (28.6%) Upper limb (28.6%)
Fibrous histiocytoma*	5	30.8 (2-56)	1:1.5	Trunk (50%)
Others**		23 **		

*Tumours classified as fibrous histiocytomas differed from dermatofibromas only due to extension into subcutaneous fat.

** These included intravascular papillary endothelial hyperplasia (3), Keloid (6), naevus lipomatosis (3), cutaneous myxoma (2), dermatofibrosarcoma protuberans (1), traumatic neuroma (1), exuberant granulation tissue (4), arterio-venous malformation (1) and lymphatic cyst (1).

Table 3. Histological types of benign epidermal tumours and tumour like conditions and their main clinical features (total number = 255)

<i>Tumour type</i>	<i>Number of cases</i>	<i>Mean age of patients (range of age)-years</i>	<i>Sex ratio M:F</i>	<i>Main sites</i>
Seborrhoeic keratosis	110	55.8 (17-72)	1:1.4	Trunk (36.7%) Face & scalp (33.3%)
Verruca	62	33.2 (3.5-75)	1:1.2	Face & scalp (27.5%) Feet & toes (21.6%)
Epidermal naevi	29	24.9 (1.5-70)	1:1.8	Face & neck (40.7%)
Keratoacanthoma	12	65 (50-77)	4.5:1	Upper limb (54.5%)
Others**		42**		

** These included keratosis (9), pseudoepitheliomatous hyperplasia (12), molluscum contagiosum (5), solar keratosis (3), dermatosis papulosa nigra (3), nodular prurigo (2), acanthosis nigricans (3), clear cell acanthoma (1), melanoacanthoma (1), condylomata acuminata (2) and acrokeratosis verruciformis (1).

Table 4. Histological types of benign skin appendage tumours and hamartomas and their main clinical features (total number = 83)

<i>Tumour type</i>	<i>Number of cases</i>	<i>Mean age of patients (range of age)-years</i>	<i>Sex ratio M:F</i>	<i>Main sites</i>
Pilomatrixoma	15	38.4 (6-70)	1:1.7	Face & scalp (57.1%)
Syringoma	11	27 (17-38)	1:10	Face & neck (90.9%)
Naevus sebaceous	9	29.8 (13-76)	1:1	Scalp & forehead (62.5%), Face (37.5%)
Eccrine spiradenoma	8	36 (20-75)	1:3	Face & neck (37.5%)
Nodular hidradenoma (Eccrine acrospiroma) (Clear cell hidradenoma)	6	41.6 (30-60)	1:5	Trunk (66.7%)
Trichoepithelioma	5	19.2 (10-26)	1:1	Face (100%)
Sebaceous hyperplasia	5	26.3 (15-52)	3:1	Face (100%)
Proliferating Trichilemmal cyst (pilar tumour)	5	61 (39-72)	1:4	Scalp (100%)
Others**		19**		

**These included chondroid syringoma (3), syringocystadenoma papilliferum (3), hidradenoma papilliferum (2), sebaceous epithelioma (2), eccrine poroma (2), eccrine dermal cylindroma (2), eccrine papillary adenoma (1), eccrine hamartoma (1), tubular apocrine adenoma (1), apocrine cyst (1) and sebaceous adenoma (1).

Table 5. Histological types of malignant cutaneous tumours (total number = 157)

<i>Tumour type</i>	<i>Number of cases</i>	<i>Mean age of patients (range of age)-years</i>	<i>Sex ratio M:F</i>	<i>Main sites</i>
Squamous cell Carcinoma (invasive)	46	57 (13*-90)	1.9:1	Face & scalp (34.1%) Feet (19.5%), Lower limb (17.1%)
Basal cell carcinoma	38	59 (33-80)	1:2.4	Face, scalp & neck (77.1%)
Secondary deposits**	22	54.9 (33-70)	1:3	Trunk (47.4%)
Melanoma	17	62.7 (35-85)	2:1	Feet (73.3%)
Squamous cell Carcinoma in-situ (Bowen's disease)	13	62.6 (40-80)	1:1.6	Trunk (61.5%)
Mycosis fungoides	13	53.8 (32-68)	1:1.2	Multiple sites (33.3%)
Cutaneous lymphoma (non-mycosis)	4	55.5 (30-72)	1:1	Trunk (50%)
Others***	4			

* This 13-year-old boy had xeroderma pigmentosum.

** The commonest primary tumour was breast carcinoma (45.5%).

*** These included 3 malignant skin appendage tumours and one Merkel cell tumour.

Discussion

Many Sri Lankan patients with benign skin tumours may not seek treatment. Thus this study does not reflect the true prevalence of skin tumours in Sri Lankans, as it is based on biopsy material. However, it shows the prevalence of common skin tumours for which patients seek treatment.

Soft tissue tumours and tumour like conditions

Soft tissue tumours and tumour like conditions were the commonest benign tumours seen in surgical excision and biopsy specimens. The common soft tissue tumours (Table 2) were haemangiomas (31.8% of soft tissue tumours) and dermatofibromas (27.6%). The majority of haemangiomas were pyogenic granulomas (lobular capillary haemangiomas). It is now believed

that they are a type of haemangioma and not simply a florid proliferation of granulation tissue². Dermatofibromas are known to be common³ and in one study accounted for almost 3% of specimens received by a dermatopathology laboratory⁴. The slight female preponderance for dermatofibromas seen in our series is in keeping with other studies^{3,4}. In the present study dermatofibromas most commonly affected the skin of the female breast. This is unusual as they are reported as being common in the lower extremities³. Fibromas (skin tags, acrochordans) are probably more common in the general population than seen in this study. In one autopsy study they were seen in 64% of individuals over the age of 50 years⁵. The female preponderance for granular cell tumour seen in the present series is in keeping with other studies⁶. It is now considered as a neoplasm of neuroectodermal differentiation⁷.

Tumours and tumour like conditions of the epidermis

Seborrhoeic keratosis accounted for 43.1% of epidermal tumours. A clinical diagnosis of a malignant lesion (melanoma or basal cell carcinoma) was made in 23.6% of these. This is not unusual as histologically a large number of them were pigmented. The occurrence in middle aged and elderly individuals and common location in the trunk seen in our study is in keeping with other studies⁸. The most commonly seen histologic variant of seborrhoeic keratosis seen in this series was the acanthotic type. 14.5% of the verrucae, seen in the present study were originally diagnosed as squamous papilloma, keratoacanthoma or seborrhoeic keratosis. Viral inclusions were present in all of them. The male: female ratio of 4.5:1 for the occurrence of keratoacanthomas is in keeping with other studies⁸. Whereas 70% of keratoacanthomas develop on the face in temperate climates, there is a greater tendency for lesions to occur in the arms and hands in subtropical areas^{8,9}. In our series the commonest site was the upper limb.

Benign tumours and hamartomas of skin appendages

The numbers of tumours in the different histological entities were too small for meaningful analysis. The common histological entities seen included pilomatrixoma, syringoma, naevus sebaceous, eccrine spiradenoma and nodular hidradenoma. The mean age of 38.4 years for pilomatrixoma seen in the present study is unusual in that previous reports describe about 60% of them developing in the first two decades of life¹⁰. The commoner occurrence of syringomas in females is in keeping with other studies¹¹.

Malignant tumours

The number of malignant tumours (157) seen during the 10-year period of our study is considerably less than the number (424) seen by Cooray¹ during a similar period commencing from 1943 in the same department. This however does not

necessarily mean that the incidence of malignant skin tumours have declined over the years as, most biopsies from all over the country were sent to the Department of Pathology, Faculty of Medicine at that time. However the ratio of squamous cell carcinoma: melanoma: basal cell carcinoma reported by Cooray¹ was 9.1: 1.2: 1 compared to the 1.2: 0.4: 1 seen in our study. As the number of basal cell carcinomas seen by Cooray¹ (36) is similar to that seen by us (38), it indicates a decrease in the proportion of squamous cell carcinomas. In contrast to Sri Lanka, in Western countries and Australia basal cell carcinomas are more common than squamous cell carcinomas⁸. In fair skinned people squamous cell carcinomas commonly arise in areas of sun exposed skin such as the forehead, face, neck and dorsum of the hands¹². In our study 36.6% of squamous cell carcinomas occurred in the lower limbs and feet. This is similar to the findings of Cooray¹ who suggested that chronic, non-specific neglected, ulcers commonly seen in the tropics may play an aetiological role. In fact the decline in the proportion of squamous cell carcinoma over the years may be due to better management of these chronic lower leg ulcers. Similarly, 61.5% of the squamous cell carcinomas in-situ occurred on the trunk suggesting a non-actinic aetiology. In the series of Cooray¹ there is no mention of in-situ squamous cell carcinoma. The site of predilection for basal cell carcinoma in our study is similar to those reported elsewhere¹³. 73.3% of the melanomas occurred in the feet. In the series by Cooray¹ 49% of melanomas occurred on the planter surface of the foot. The common involvement of the soles in Sri Lankans is similar to the high involvement of this site reported in Japanese, Chinese, Hispanics and blacks as compared to Caucasoids¹⁴. Malignant skin appendage tumours were very rare in the present series.

There is no previous documentation of the prevalence of cutaneous lymphomas in Sri Lankans. The low prevalence of these tumours and the recognition of numerous new entities¹⁵ necessitate the evaluation of these tumours by a specialized study group. The recent formation of a cutaneous lymphoma study group in Sri Lanka is welcome in this respect¹⁶.

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