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Research Article

PATTERN OF SKIN TUMOURS IN KASHMIR VALLEY OF NORTH INDIA: A HOSPITAL BASED CLINICOPATHOLOGICAL STUDY

[1,*]Peerzada Sajad, [2]Iffat Hassan, [3]Ruby Reshi, [4]Atif Khan and [5]Waseem Qureshi

[1]MBBS, MD Senior Resident, Postgraduate Department of Dermatology, GMC Srinagar, India
[2]Associate Professor and Head Postgraduate Department of Dermatology, STD and Leprosy GMC Srinagar, India
[3]Associate professor and Head Postgraduate Department of Pathology GMC Srinagar, India
[4]Scholar, Postgraduate Department of Dermatology, STD and Leprosy GMC Srinagar, India
[5]Chief physician and Registrar Academics, Government Medical College Srinagar, India

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ABSTRACT

Background: Earlier studies have shown that the incidence of all varieties of skin cancers is lower among Indians due to the protective effects of melanin.However the pattern of skin cancers in kashmir valley is different from the rest of India due to the presence of Kangri cancer.
Objective: Our aim was to assess the distribution pattern of skin tumours among ethnickashmiri population presenting to a tertiary care hospital in Kashmir and comparison of clinical diagnosis with histopathological confirmation.
Methods: This study was a prospective hospital based which was conducted over a one year period on patients' attending the outpatient department of Dermatology of our hospital and presenting with clinical features suspicious of benign or malignant skin tumours .All the relevant investigations including a skin biopsy were done in every individual patient to determine the type of tumour.
Results: Skin tumours constituted 0.55% of the total patients studied during the one year period. Benign skin tumours were more common followed by premalignant skin tumours.
Limitations of the study: This was a descriptive study in which only the patients presenting to our hospital were taken for the study to determine the pattern of skin tumours and hence the prevalence could not be determined. Moreover aetiological factors were not taken into consideration.
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Conclusion: Skin tumours constituted less than 1% of all the diagnosed diseases seen in one year, which is consistent with studies done in other parts of India but less than that of the western countries.

INTRODUCTION

Incidence of skin cancers has been increasing since the last few decades worldwide. Nonmelanoma skin cancer (NMSC) is the commonest variety of cutaneous malignancy. Earlier studies have shown that the incidence of all varieties of skin cancers is lower among Indians due to the protective effects of melanin. However the pattern of skin cancers in kashmir valley is different from the rest of India due to the presence of Kangri cancer. More than one-third of all cancers in the United States are non-melanoma skin cancers (NMSCs) (Boring, 1991).

Corresponding author: Peerzada Sajad,
MBBS, MD Senior Resident, Postgraduate Department of Dermatology, GMC Srinagar, India.

Smaller surveys suggest that the incidence may have increased by as much as 65% since 1980 (Gallagher, 1990). Basal cell carcinomas (BCCs) are the commonest cutaneous tumours accounting for approximately 70% of all malignant diseases of the skin (Casson, 1980). There is a paucity of data regarding skin tumours in India.The exact incidence in India is not known. But non-melanoma skin cancers (NMSC) is known to be uncommon in Asians (Scotto, 1983). Among dark-skinned individuals, squamous cell carcinoma (SCC) is commoner than basal cell carcinoma (BCC). Various studies from India consistently report squamous cell carcinoma (SCC) to be the most prevalent skin malignancy (Talvalkar, 1970). In dark-skinned people, squamous cell carcinoma (SCC) often occurs in sites that have not been exposed to the sun and is often

aggressive (Fleming, 1975). Otherwise, exposure to sunlight is the principal cause of both basal cell carcinoma and squamous cell carcinoma (Yamaguchi, 2008 and International agency for research on cancer, 1992). The aim of the present study was to assess the distribution pattern of skin tumours among ethnic kashmiri population presenting to a tertiary care hospital in Kashmir and comparison of clinical diagnosis with histopathological confirmation.

MATERIALS AND METHODS

The study was a prospective hospital based which was conducted on patients' attending the outpatient department of Dermatology,STD and Leprosy,SMHS Hospital (associated teaching hospital of Govt. medical college srinagar) for a period of one year from 01-04-2011 to 01-04-2012. All the consecutive patients' attending the outpatient department of Dermatology and presenting with clinical features suspicious of benign or malignant skin tumours were taken up for the study.

Inclusion criteria

Ethnic kashmiri population.
All age groups.

Exclusion criteria

Non-kashmiri's

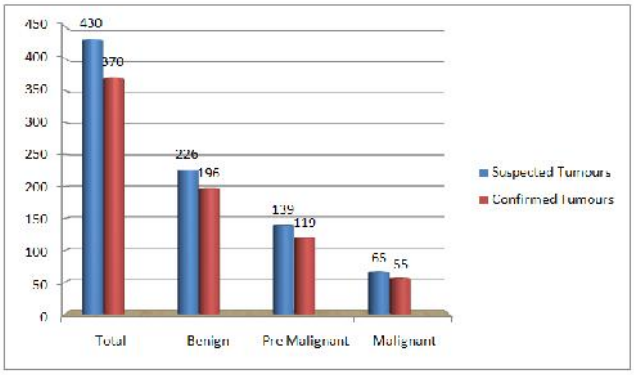

Figure 1. Graphic representation of comparison between clinical diagnosis and histopathology

Figure 2. Giant seborrhoeic keratosis over the chest of a female (1600×1200).

A detailed history was taken from each patient followed by clinical examination including general physical examination and systemic examination.

Figure 3. Pilomatrixoma over the arm in a young male (1600×1200)

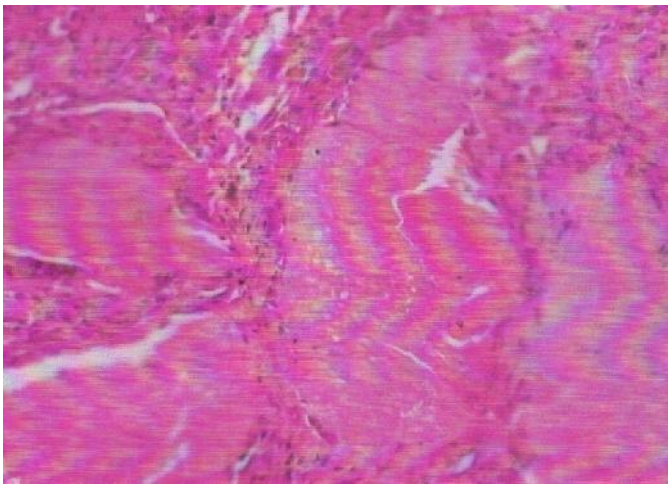

Figure 4. Histopathological picture of pilomatrixoma (HandE)

Figure 5.Cutaneous horn over the thigh of an elderly female (1600×1200)

A complete Cutaneous examination was done to determine the type of tumour (benign or malignant). All the relevant investigations (CBC, LFT, KFT, bleeding time, clotting time) were done in every individual patient depending on the type of skin tumour. Biopsy of the lesions (punch, or edge or excisional biopsy) with diagnostic dilemma on clinical examination was done which was subjected to histopathological examination for confirmation.

Figure 6. Squamous cell carcinoma over the thigh. (1600×1200)

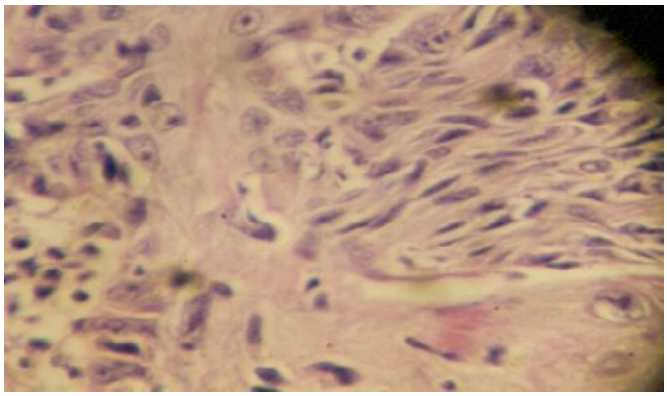

Figure 7. Histological picture of squamous cell carcinoma (H and E)

Figure 8. Basal cell carcinoma over the face. (1600×1200)

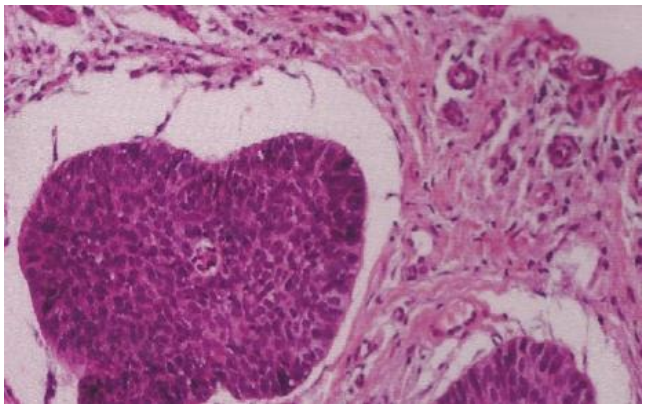

Figure 9. Histopathological picture of basal cell carcinoma (H and E)

Figure 10. Bowen's disease on a background of erythema ab igne (1600×1200)

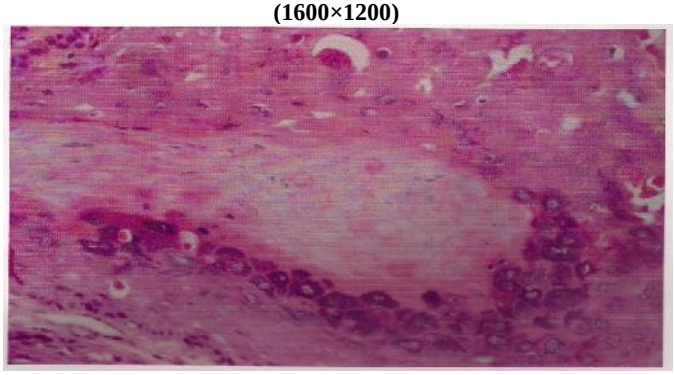

Figure 11. Histological picture of Bowen's disease (HandE)

RESULTS

This study was a prospective hospital based study which was conducted for a period of one year from 01-04-2011 to 31-03-2012.

Table 1. Comparison of clinical diagnosis with histopathology

Total no of suspected tumours on clinical examination.	Total no. of confirmed tumours on histopathology.
430	370
226(Benign)	196
139(Premalignant)	119
65(malignant)	55

Table 2. Type and percentage of benign skin tumours

Type of benign skin tumour	Percentage
Seborrhoeic keratosis	39(19.89%)
Melanocytic naevi	38(19.38%)
Pyogenic granulomas	23(11.73%)
Acrochordons	24(12.74%)
Sebaceous naevi	15(5.61%)
Dermatofibromas	10(5.10%)
Syringomas	09(4.59%)
Angiokeratomas	08(4.08%)
Leiomyomas	07(3.57%)
Hemangiomas	08(4.08%)
Keratoacanthoma	04(2.04%)
Cylindromas	03(1.53%)
Trifolliculomas	03(1.53%)
Trichoepitheliomas	02(1.02%)
Pilomatrixomas	03(1.53%)
Angioleiomyomas	01(0.51%)
Eccrine adenomas	01(0.51%)
Glomus tumours	02(1.02%)

Table 3. Type and percentage of premalignant skin tumours

Type of premalignant skin tumours	Percentage
Actinic keratosis	65(54.62%)
Bowen's disease	50(42.01%)
Cutaneous horn	4(3.36%)

Table 4. Type and percentage of malignant skin tumours

Type of malignant skin tumour	Percentage.
Squamous cell carcinoma	29(52.72%)
Basal cell carcinoma	24(43.63%)
Malignant melanoma	02(3.63%).

A total of 66768 patientsattended the outpatient department of Dermatology, STD and Leprosy, SMHS hospital Srinagar during the said period. Out of these 430 patients were suspected of having various skin tumours on clinical examination. After doing a complete clinical examination and routine investigations a skin biopsy (which consisted of either punch, edge or an excisional biopsy) was done in these patients. A total of 370 patients (0.55%) were confirmed to be having various types of skin tumours on histopathological examination.Thus skin tumours constituted 0.55% of the total patients studied during the one year period. Benign skin tumours comprised of 52.97%, premalignant skin tumours 32.16% and malignant skin tumours 14.86% of all the confirmed cases of skin tumours.

Statistical analysis

Chi-square test was used for drawing the conclusions. P value obtained was 0.999.

DISCUSSION

A total of 66768 patients attended the outpatient department of Dermatology, STD and Leprosy, SMHS hospital Srinagar during the one year period. Out of these 430 patients were suspected of having various skin tumours on clinical examination, however only 370 patients were confirmed to be having various types of skin tumours on histopathological examination. Thus Skin tumours constituted 0.55% of the total patients studied during the one year period. Benign skin tumours comprised of 52.97%, premalignant skin tumours 32.16% and malignant skin tumours 14.86% of all the confirmed cases of skin tumours. Among the benign skin tumours, seborrhoeic keratosis was most commonly found tumour in our study which is consistent with studies done in other parts of the world (Yeatman, 1997). It was seen in 39 patients (19.89%). The sites involved were the face, scalp, dorsa of hands and forearms.The age group included patients after third decade of life. The most common presentation was non-pruritic, non-tender brown and black coloured papules and plaques with a greasy feel and fine stippling on the surface.The duration of the lesions ranged from 8months to 6 years. Melanocytic naevi were the second most common type of benign skin tumours in our study which is consistent with other studies (Bataille, 1998). These were seen in38patients (19.38%). Acquired melanocytic naevi were reported in 32 patients (84.2%) and congenital melanocytic naevi in 06 patients (15.78%). The mode of presentation was dark brown or black coloured macule, papule or a nodule with history of increase in size or pruritus.

The sites most commonly involved were the face and upper limbs and the age group involved ranged from 8 months to 38 years. Pyogenic granuloma was seen in 23 patients (11.73%). The mode of presentation was a bright red, dark red and brown-black crusted papules and nodules with a short history of days to weeks and bleeding with minor trauma. The age group involved ranged from 3-30 years. The sites frequently involved were the fingers, hands, face scalp and toes which is consistent with studies done in other parts of the world (Harris, 2000).

Acrochordons were observed in 24 patients (12.24%) which is less when compared to studies done in other parts of the world (Boza, 2011). The mode of presentation was multiple soft skin coloured or brown round or oval pedunculated growths with a constriction at the base involving neck, axillae and groins. The age group involved ranged from 28-60 years. There was no history of increase in size, pain, trauma or bleeding. Sebaceous naevus was observed in 11 patients (5.61%) which is consistent with other studies (Manonukul, 2010). The mode of presentation was a thin elevated 1-2cm orange or dark-brown hairless nodule or plaque with a verrucous surface over the scalp in children and adolescents with history of increase in size after puberty and presence since birth. Dermatofibroma was observed in 10 patients (5.10%). The mode of presentation was a solitary skin coloured, pink or dark-brown papule or a nodule over limbs and trunk, with tenderness on deep palpation.Females were more commonly involved as compared to males. Regarding the site involved lower limbs were involved more frequently followed by upper limbs and trunk, which is consistent with studies done in other parts of the world (Child, 1999). There was no history of pain, pruritus or bleeding.

Syringomas are benign adenomas of the eccrine ducts. These were observed in 09 cases (4.59%) in our study, which is less when compared to studies done in other parts of the world (Schepis, 1994). The mode of presentation was multiple bilaterally symmetrical skin coloured papules in the periorbital area.These were more commonly seen in females as compared to males. The duration of lesions ranged from 8 months to 7 years. There was no history of pain, pruritus, tenderness or bleeding. Angiokeratomas are vascular tumours with keratotic elements.These were observed in 8 patients (4.08%) with most common presentation being angiokeratoma of Fordyce followed by angiokeratoma of Mibelli and solitary angiokeratoma, which is consistent with other studies (Izaki, 1952).

The sites involved most frequently were scrotum and limbs. Males were more frequently involved as compared to females. Clinically the lesions presented as dark voilaceous to black keratotic papules and nodules with history of bleeding with trauma. Hemangiomas are the most common tumour of infancy with incidence in newborns between 1-2.5%.In our study we observed 8 cases of hamangiomas (4.08%) with 5 in newborns and 3 hemangiomas in young adults, which is consistent with the reported literature (Édila Figuerêdo Feitosa, 2010). The mode of presentation was a soft, bright red to deep purple compressible nodules and plaques with history of bleeding due to trauma.Head and neck was the most common site of involvement. We observed leiomyoma cutis in 7 patients (3.57%). Upper limbs followed by lower limbs and trunk were the sites involved in the order of frequency.

The mode of presentation was a solitary or multiple skin coloured and erythematous papules and nodules with history of pain during winter months and cold weather and tenderness on palpation. The incidence was equal in males and females. The exact incidence of Leiomyomas is not known (Lubbers, 1987). In this study we observed 04 cases (2.04%) of keratoacanthoma. Males were affected more frequently as compared to females and face was the site of involvement in all patients, which is consistent with studies done in other parts of the world (Vergilis-Kalner, 2010). The mode of presentation was a rapidly enlarging firm rounded erythematous and skin coloured papules or nodules with a keratotic centre. There was a history of rapid growth of the lesions of 3weeks to 4months duration. There was occasional history of bleeding on removal of the crust. There was no history of pain or pruritus in any of the patients.

Tumours of hair follicle differentiation are uncommon tumours.In our study we observed 03 cases (1.53%) of trichofolliculomas all of which were seen in females over the scalp as a skin coloured nodules with hairs emerging from these lesions.There was no history of pain, tenderness or bleeding. 03 cases (1.53%) of cylindromas were observed in our study.All of these patients were adult females who presented with painless non-tender 1-3cm nodules over the scalp. There was history of increase in size but no history of pain, tenderness, pruritus or bleeding.Cylindroma is an uncommon tumour of uncertain origin, affecting females more frequently than males, consistent with our study.It is frequently familial and an autosomal dominant inheritance is noted. The exact incidence is not known (Blake, 2010). We observed 02 cases (1.02%) of trichoepitheliomas in our study. Both the cases were adult males who presented with non-tender skin coloured papules over the face and with history of increase in size.The diagnosis was confirmed on histopathology.

Pilomatricoma is an uncommon harmless skin tumour derived from hair matrix cells (Guinot-Moya, 2011). In our study we observed 03 cases (1.53%) of pilomatrixomas. All of these were seen in young children <10 years of age with two of the lesions on upper arm and one on the posterior aspect of neck. Glomus tumour is a benign neoplasm arising from the glomus body.They are usually solitary and small and can be found under the fingernails and on the tympanic membrane. In our study we observed 02 cases (1.02%) of glomus tumour.These were seen in males under the finger nails as a reddish-blue painful nodules with history of bleeding and pain on exposure on cold. The exact incidence of glomus tumors is unknown (Carroll, 1972). Angioleiomyoma (also known as a "Vascular leiomyoma") of the skin is thought to arise from vascular smooth muscle, and is generally acquired.It commonly occurs between third and fifth decades of life. Although there are sporadic reports about this tumour in the literature, none describes all the information in detail (Hachisuga, 1984). In our study we observed a single case of angioleiomyoma on the upper arm of a middle aged female.The lesion presented as a solitary painful skin coloured nodule with history of increase in size and tenderness on palpation. Papillary eccrine adenoma is a benign skin tumour that presents as a dermal nodule located primarily on the extremities of black patients.In our study we observed a single case of eccrine adenoma in an adult male patient who presented with a 3 years history of painless verrucous plaque over the scalp.

There was no history of pain, pruritus, tenderness or bleeding. There is a paucity of literature regarding the incidence and prevalence of papillary eccrine adenoma (Rulon, 1977). In our study premalignant skin tumours constituted 32.16%(119 cases).Actinic keratosis was the most common lesion followed by bowen's disease and cutaneous horn.Actinic keratosis was seen in 65 patients thus accounting for 54.62% of the premalignant skin tumours. The lesions of actinic keratosis were noticed over the chronically sun-exposed sites such as scalp, face dorsa of the hands and forearms as dry, rough, hyperkeratotic papules and plaques. The age group affected ranged from 40-75 years and males were involved more frequently as compared to females. The higher percentage of cases in our study could be attributed to the greater amount of sun-exposure because of more involvement in outdoor activities in our patients (Memon, 2000). Bowen's disease was observed in 50 patients (42.01% of premalignant skin tumours) and hence constituted 13.51% of overall skin tumours in our study which is consistent with most studies done in other parts of the world (Reizner, 1994). The most common site of involvement was inner aspect of thighs followed by the medial aspect of legs which could be attributed to the use of Kangri (a local indigenous firepot used for warming purposes during winter months).

Females were affected more as compared to males. The age group involved ranged from 35-75 years. The most common presentation was an erythematous crusted scaly plaque on a background of erythema ab igne. Studies done in west mention lower legs and other sunexpoesed sites in elderly females as the most common site of involvement. Cutaneous horn was noted in 4 patients (3.36%) in our study.Males and females of the elderly age group were equally affected. Limbs and face were the sites frequently affected. The mode of presentation was a hard, yellowish-brown curved horn on a normal looking epidermis.There was no history of pain, tenderness, pruritus and bleeding in any of the patients. The exact incidence of cutaneous horns is not known but previous studies have shown that approximately 30% of cutaneous horns are located on the upper face and scalp. It may be caused by benign, premalignant or malignant skin tumours (Bondeson, 2001). Malignant skin tumours constituted 14.72% of all the skin tumours. Squamous cell carcinoma was the most common malignancy followed by basal cell carcinoma and malignant melanoma.

Squamous cell carcinoma constituted 52.72% of the malignant skin tumours. Inner aspect of thighs followed by anterior abdominal wall, face and limbs were the sites involved in the order of frequency. Females were more frequently affected as compared to males.Over the thighs the squamous cell carcinoma was noted on a background of erythema ab igne, consistent with the site of maximal thermal exposure due to Kangri use. The age group affected belonged to 33-78years. The exact incidence of squamous cell carcinoma in India is not known. But non-melanoma skin cancer is known to be uncommon in Asians. Among dark-skinned individuals, SCC is commoner than BCC. Various studies from India consistently report SCC to be the most prevalent skin malignancy (Teli, 2009).

Basal cell carcinoma constituted 43.63% of the malignant skin tumours and 20.16% of all the skin tumours in our study. Males were more frequently affected as compared to females.The age group affected belonged to the 33-62 years.

Face and scalp was the most frequently affected site followed upper limbs and trunk, which is consistent with the reported literature (Reizner, 1993). The most common presentation was a translucent erythematous plaque with a thready margin and overlying superficial telangiectasias. The other modes of presentation were a superficial ulcer, hyperkeratotic indurated plaque or a nodule and an atrophic indurated scar with superficial telangiectasias. Malignant melanoma was observed in 2 patients (3.63% of malignant skin tumours) in our study which is less when compared to studies done in other parts of the world (Jemal, 2000). An equal sex incidence was noticed. In one patient the right great toe was affected with crusted brownish-black plaque and in other patient the scalp was involved with superficial ulceration having interspersed dark pigmentation. Both the patients belonged to the middle age group and gave history of bleeding and slow growth of the lesion. The less incidence of malignant melanoma in our study could be attributed to the darker skin type and less recreational sun-exposure in our patient group studied.

Conclusion

To conclude skin tumours constituted less than 1% of all the diagnosed diseases seen in one year, which is consistent with studies done in other parts of India but less than that seen in the western countries. Benign skin tumours were more common followed by the premalignant and malignant skin tumours. Early diagnosis and treatment of skin tumours leads to a definite reduction in the morbidity and mortality associated with skin tumours.

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