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Original Research Article

Clinical profile of malignancies of groin region in our area: a combined retrospective and prospective study

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ABSTRACT

Background: This study involved various malignancies affecting the groin area in all age group of patients and both genders. The aim of the study was to study the various types of malignancies affecting groin, viz. primary or metastatic, and to project their clinical profile.
Methods: In this observational study, a total of 145 patients of groin malignancies were studied in department of General and Minimal Invasive Surgery and allied specialties in a tertiary care hospital. The study was retrospective from January 2005 to April 2012 and prospective from May 2012 till 2014.
Results: Out of the total of 145 cases almost 95% were metastatic in the groin and primary groin cancers constituted only 4.9% of the cases. Out of 138 tumors that were metastatic in the groin 108 were squamous cell carcinomas followed by malignant melanoma in 28 cases. Most common predisposing factor for development of groin malignancy was use of kangri in our area.
Conclusions: Most of the groin malignancies are metastatic to groin and primary cancers at groin are very rare. Kangri use in our part of the world, is the most important predisposing factor leading to squamous cell carcinoma. The management protocol followed in order to treat groin malignancy is surgery of the primary lesion and block dissection of groin.

Keywords: Groin, Malignancy, Metastasis, Kangri

INTRODUCTION

There are many diverse abnormalities of the groin, and the differential diagnosis of groin lesions can be difficult for many surgeons because of their similar clinical profile.[1,2] Ultrasonography is accurate for distinguishing between solid and cystic lesions and may play an important role in distinguishing between benign and malignant lesions. Groin lesions can be classified as either neoplastic or nonneoplastic. Neoplastic lesions include, epidermoid cyst, angiomyofibroblastoma-like tumor, liposarcoma, synovial sarcoma, and lymphoma, as well as metastases from carcinomas of the lung, breast, urinary bladder, ovary, vulva, and colon. Secondary metastatic disease from melanoma, neuroendocrine carcinoma, and carcinomas of the lung, breast, urinary bladder, ovary, vulva, and colon can occur in the groin. The ultrasonographic findings of these masses are usually hypoechoic.[2] Although lymphoma is markedly hypoechoic the differential diagnosis of these masses is difficult. Metastatic masses should be distinguished from benign lymph nodes.[3]

Kangri cancer is peculiar to Kashmir region (northern India) as the people of all age groups are accustomed to warm their bodies by the use of kangri. The Kangri is an earthen ware container with an outer encasement of wickerwork that is filled with ignited coal inside for

providing a source of heat in winter months. The main objective of this study was to study the spectrum and clinical profile of groin malignancies in our area.

METHODS

A total of 145 patients of groin malignancies were studied in Department of General and Minimal Invasive Surgery and allied specialties in a tertiary care hospital. The study conducted was retrospective from April 2012 to January 2005 as well as prospective from May 2012 till 2014.

All the details from retrospective cases were compiled from their case sheets in Medical record department Section and RCC(regional cancer centre) section of SKIMS. All patients diagnosed as groin cancer were included in the study after taking written informed consent. Detailed present and past history was taken and complete general physical and systemic examination was done. All necessary investigations were carried out and best management strategy was provided.

Study design

Retrospective study from April 2005 to 2012. Prospective study from May 2012 till 2014.

Study setting

Department of General surgery and Allied Specialties, Radiation and Medical oncology- both inpatient and outpatient SKIMS, Soura.

Study population

Patients with groin cancers who attended SKIMS, Soura.

Study size

Patients of groin cancer treated in SKIMS from 2005 to 2014, total duration of 10 years.

Study area

Sher- i- Kashmir Institute of Medical Sciences, Soura. Written informed consent was taken from the patient before including him or her in the study. Patients of all age groups and of either sex were included in this study.

RESULTS

Out of the total of 145 cases 138 (95%) were having metastatic lump in the groin while as Out of 138 tumors which were metastatic in the groin and 7 (4.90%) patients were having primary tumour in groin as shown in Table 1.

The primary malignancies of the groin constituted four cases of sarcoma (57.10%), one malignant melanoma (14.20%), one Non-Hodgkin'slymphoma (14.20%) and one acrospiroma (14.20) as shown in Table 2.

Table 1: Distribution of patients on the basis of primary or metastatic nature of malignancy.

	Number of patients	Percent
Primary	7	4.90
Metastatic	138	95.10
Total	145	100

Table 2: Distribution of primary malignancies of groin on histopathological basis.

Primary malignancy of groin	Number of patients	Percent
Malignant melanoma	1	14.20
Sarcoma	4	57.10
Non-Hodgkin's lymphoma	1	14.20
Acrospiroma	1	14.20
Total	**7**	

Table 3: Distribution of metastasis on histopathological basis.

Metastatic malignancy	Number of patients	Percent
Squamous cell carcinoma	108	78.20
Malignant melanoma	28	20
Sarcoma	2	1.44
Total	138	

Table 4: Sex distribution of patients participating in our study.

Sex	Number of patients	Percent
Male	93	64.10
Female	52	35.90
Total	145	100

Out of 138 tumors which were metastatic in the groin, 108 (78.20%) cases were squamous cell carcinoma followed by malignant melanoma in 28 (20%) cases and 2 cases of sarcoma (1.44%) as shown in Table 3.

The primary malignancies of the groin constituted four cases of sarcoma, one malignant melanoma, one Non-Hodgkin's lymphoma and one acrospiroma.

In the case of malignant melanoma,before labelling it as a primary, a thorough examination of the drainage area was done but no primary lesion was found.

Male (64.10%) to female35.90%) ratio was 1.7:1 as shown in Table 4.

Majority of patients were in the age group of 40 to 70 years. 41 to 50 years age group were 15.17%, 51 to 60 years age group 26.80% and 61 to 70 years age group were 29.60% as shown in table no 5. This age group in the involved category usually belongs to farmer class who have prolonged sunlight exposure and excessive kangri use.

Table 5: Age distribution of patients participating in our study.

Age (years)	Number of patients	Percent
10 to 20	2	1.37
21 to 30	10	6.89
31 to 40	6	4.13
41 to 50	22	15.17
51 to 60	39	26.8
61 to 70	43	29.6
71 to 80	19	13.1
Above 80	4	2.75
Total	145	

Table 6: Distribution of patients on the basis of site of lesion.

Site	Number of patients	Percent
Right groin	71	49.00
Left groin	68	46.90
Bilateral groin	6	4.10
Total	145	100

Table 7: Predisposing factors for groin malignancies.

Predisposing Factors	Number of patients	Percent
Kangri use	106	73.10
Sunlight exposure	104	71.70
Pre-existing nevi or mole	8	5.50
Post burn	3	2.10
Trauma related	6	4.13
Unknown aetiology	10	6.86

Both the right (49%) and the left groin (46.90%) were almost equally affected whereas bilateral disease was seen in six cases (4.10%) as shown in Table 6.

As shown in table no.7 kangri use (73.10%) was the most common predisposing factor for groin malignancy followed by sunlight exposure (71.70%), preexisting mole (5.50%), post burn (2.10%), trauma and unknown cause (11%).

Table 8: Clinical presentation of patients having groin malignancies.

Clinical presentation		Number of patients
Single mass		74
Ulcer	Cauliflower growth	11
	Excavating	8
Multiple nodes	Matted	27
	Mobile	15
	Fungating	10
Total		145

Regarding clinical presentation of groin malignancies in our study 74 patients presented with single mass, cauliflower like growth in 11 and excavating growth in 8 patients and matted nodes were found in 27, mobile in 15 and fungating nodes were seen in 10 patients as depicted in Table 8.

DISCUSSION

In our observational study out of the total of 145 cases almost 95% were metastatic in the groin while as seven cases (4.9%) were primary tumors. This demonstrates the fact that malignancies occurring primarily in groin are very rare and this is in conformity with most of the literature available about groin malignancies.

Most of the studies like Zaren and Edward III, Taylor et al, Katz et al, Byron et al; McCarthy et al, Karakousis et al all have dealt with inguinal node metastases and primary groin malignancy has been very rarely reported in literature.[1,4-7]

The present observational study has shown that out of 138 cases of metastases to inguinal nodes, 108 cases were squamous cell carcinoma followed by 28 cases of malignant melanoma and 2 cases of sarcoma. Primary malignancy of groin constituted four cases of sarcoma and one case of malignant melanoma, non-Hodgkins lymphoma and acrospiroma each.

Zaren and Edward III (1978) in their study of 2232 inguinal node metastases patients indicated most common pathological diagnosis were melanoma (607 cases), Squamous cell carcinoma (529 cases), adenocarcinoma (218 cases), papillary serous carcinoma (93 cases) transitional cell carcinoma (62 cases). Other less frequent classifications were all types of sarcomas, neuroblastomas and retinoblastomas. In our study also squamous cell carcinomas and melanomas predominate in inguinal node metastases. Malignant melanoma is uncommon in our part of the world because melanoma is predominantly a disease of fair skinned people. Caucasians outnumber other races with an incidence of 6:11.

Wani et al (2010) reported 17 patients who were documented with a Kangri cancer, sixteen patients had cancer on a thigh and 1 had cancer on the abdominal wall, and histopathology of all the patients was squamous cell carcinoma.8 The results were comparable to our study with 45.2% lesions arising from the thighs as the most common primary site. This may be contributed to the fact that kangri is usually in contact with skin of inner thighs and lower abdomen.

The present observational study compiles the clinical picture of the malignancies that occur in the groin region. Both the left and right groin were almost equally affected whereas bilateral disease was seen in few cases. Majority of the malignancies appeared as a single mass 51% while 35.8% cases had a multiple nodal mass. Nineteen cases (13.1%) presented as a malignant ulcer.

Malignant wounds occur in up to 10% of patients with advanced or metastatic cancers.[9,10] In our study 13% cases were malignant ulcers.

Malignant wounds can evolve from a primary tumor of the skin or an invasive underlying mass or a recurrence along a surgical suture line or metastases. In our study mostly metastases to groin gave rise to the malignant wounds.

The most common predisposing factor reported in our study associated with inguinal metastases was kangri use. Sunlight exposure as a cause was also the predominant aetiological factor. More than 100 patients each reported chronic use of kangri over decades as well as sunlight exposure to legs during farming.

The Kangri is an earthenware container with an outer encasement of wickerwork that is filled with ignited coal inside for providing a source of heat in winter months.[8] This is unique self designed way of getting warmth for long hours at low economic costs and has been a part of the culture and traditions of this valley.

Kangri cancer is similar to a related entity in Japan where kairo cancer (a metal box which contains embers and is kept close to the abdomen for warmth), are examples of cancer being caused by physical agent: heat irritation.

William Elmsile first documented Squamous cell carcinoma of the skin among Kashmiris and correctly ascribed it to the use of the kangri. Later Theodre Maxwell (1879) confirmed these findings, which were followed by a large series initially by Arthur Nerve and later, his brother Ernest nerve.[11,12]

In our study also majority of the squamous cell cancers are related to kangri use thus in accordance to above mentioned literature.

Other predisposing factors in our study are pre existing mole or nevi (5.5%), post burn marjolin's ulcer (2%) and trauma related. Again these are well established and recognized predisposing factors in cancer causation as seen in following studies.

The site of the cancer was preceded by a mole, wart, pimple scab, ulcer, leucoplakia, crack, blister, or lump in 51.17% cases in a study conducted by Albert.[13] There was a history of injury in 23.82 per cent. Of the cases burns represented 24.59 percent of the injuries, and X-ray burns represented 20 per cent of the burns.

CONCLUSION

Most of the groin malignancies are metastatic to groin and primary cancers in groin area are very rarely seen. Kangri use in our part of the world, is the most important predisposing factor leading to squamous cell carcinoma apart from pre existing mole or nevus, post burn and trauma.

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REFERENCES

1. Zaren HA, Edward MC III. Inguinal node metastases. Cancer March 1978;41(3):919-923.
2. Yang DM, Kim HC, Lim JW, Jin W, Ryu CW, Kim GY, et al. Sonographic findings of groin masses. J Ultrasound Med. 2007;26:605-14.
3. Balch CM, Soong SJ, Gershenwald JE. Prognostic factors analysis of 17 600 melanoma patients: validation of the American Joint Committee on Cancer melanoma staging system. J Clin Oncol. 2001;19:3622-34.
4. Taylor GW, Nathanson IT, and Darrel T. Epidermoid carcinoma of the extremities with reference to lymph node involvement. Ann Surg. 1941;113(2):268-275.
5. Katz AD, Frederick U, Abraham ML. The frequency and risk of metastases in squamous-cell carcinoma of the skin. Cancer. 1957;10:1162-6.
6. McCarthy JG, Haagensen CD, Herter FP. The role of groin dissection in management of melanoma of lower extremity. Ann Surg. 1974;179:156-9.
7. Karakousis CP. Ilioinguinal lymph node dissection. The American Journal of Surgery. 1981;141(2):29-303.
8. Wani I. Kangri Cancer. Surgery. 2010;147(4):586-8.
9. Seaman S. Management of malignant fungating wounds in advanced cancer. Seminars in Oncology Nursing. 2006;22(3):185-93.
10. Malignant cutaneous wounds. A management protocol. Ostomy Wound Management. 1997;43:56-66.
11. Maxwell T. Epitheliomas in Kashmir. Lancet. 1879;1:152-4.
12. Ernest FN (Senior Surgeon, Kashmir Mission Hospital). Squamous celled epithelioma due to

kangri burn. The National Medical Journal of India. 2010;23:1.
13. Albert CB. Squamous-cell epithelioma of the skin. Annals of Surgery. 1921;LXXIII(2):141-60.

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