THE STUDY OF CUTANEOUS MANIFESTATIONS OF MALIGNANT DISEASES

Sangameshwara G. M¹, Venkatesh U², Indudhara P. B³, Ganga H⁴, Lohith S⁵

¹Associate Professor, Department of Dermatology, Subbaiah Institute of Medical Sciences, Shimoga.

²Professor & HOD, Department of ENT, Raichur Institute of Medical Sciences, Raichur.

³Assistant Professor, Department of Pathology, Subbaiah Institute of Medical Sciences, Shimoga.

⁴Assistant Professor, Department of Pathology, Subbaiah Institute of Medical Sciences, Shimoga.

⁵Assistant Professor, Department of ENT, Subbaiah Institute of Medical Sciences, Shimoga.

ABSTRACT

BACKGROUND

Malignancy affecting the organs is reflected on to the skin in the form of specific or nonspecific lesions. This study is aimed at determining the incidence of cutaneous manifestations among patients with various malignancies.

MATERIAL AND METHODS

100 cases of biopsy proven malignancies were taken for the study from November to December 2013 attending oncology outpatient and inpatient department at Father Muller Medical College Hospital, Mangalore, Karnataka. Post radiation and chemotherapy therapy patients were excluded from the study, but recurrence after the surgery were included.

RESULT

Out of 100 cases studied, skin changes seen in 15 cases. The cutaneous metastases were seen in 6 (6%), out of which 5 (5%) were contiguous and 1 (1%) was non-contiguous. Nonspecific skin changes seen in 9 (9%) cases, in which commonest was acquired ichthyosis, 3 (3%) seen in carcinoma oesophagus, 2 (2%) in carcinoma stomach and 1 (1%) in Non-Hodgkin's lymphoma. Generalised pruritus, petechial haemorrhage, acanthosis nigricans seen in hepatocellular carcinoma, acute lymphatic leukaemia and carcinoma breast 1 case each respectively.

CONCLUSION

Cutaneous metastasis occurs late in malignancy and relapse after surgery seen in some cases. Early recognition and treatment of cutaneous metastasis will help in prolonging the life of patient.

KEYWORDS

Cutaneous Metastasis, Malignant Neoplasm, Contiguous, Non-Contiguous.

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INTRODUCTION

Skin is the mirror of internal disorder where malignancy is reflected on to the skin, may be in the form of specific malignant infiltrate and nonspecific lesions. Specific infiltrate may be contiguous or non-contiguous that will reveal malignant cells on histopathology.

MATERIAL AND METHODS

After obtaining approval from Institutional Ethical Committee and informed consent from the patients, 100 cases of histopathologically proven primary malignancies of all age group of varying duration involving different body organs attending oncology outpatient and inpatient department were randomly taken for the present study. Detailed history about duration of malignancy and duration between onset of malignancy and skin changes recorded. Cutaneous and systemic examination was done, biopsy of cutaneous lesions were taken and subjected for histopathological examination.

Clinical photographs were also taken. Data collected was analysed and compared with similar studies conducted elsewhere.

Inclusion Criteria

1. First time diagnosed malignancies without any previous cancer therapy.
2. Patients with recurrence after the surgery who had not received pre or postoperative radiotherapy or chemotherapy.

Exclusion Criteria

Patients treated with radiation or chemotherapy previously.

RESULTS

Total number of cases studied were 100, out of which 52 (52%) patients were male and 48 (48%) patients were female; 49 (49%) patients were above the age of 50 yrs., 27 (27%) cases in 4th decade, 13 (13%) cases in 3rd decade, 6 (6%) cases in 2nd decade and least was seen in 1st decade with 5 (5%) cases.

In the present study tumours found in males were carcinoma of the oropharynx (12), carcinomas of the oesophagus (7), oral cavity (6), larynx (6), acute lymphatic leukaemia (4), rectum (3), carcinoma lung (2), stomach (2) and other malignancies seen one each in, carcinoma nasopharynx, Multiple myeloma, Metastatic adenocarcinoma, Ewing's sarcoma left arm, Carcinoma of prostate, Carcinoma bladder, Carcinoma cerebellopontine angle, Carcinoma penis,

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Corresponding Author:

Dr. Sangameshwara G. M,

Associate Professor,

Department of Dermatology,

Subbaiah Institute of Medical Sciences,

Shimoga.

E-mail: drsangameshwara@yahoo.in

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Pituitary adenocarcinoma and Metastatic carcinoma of unknown origin.

Malignancies found in females were carcinoma cervix (10), carcinoma breast (10), carcinomas of the ovary (6), stomach (4), oropharynx (3), oesophagus (3), rectum (3), acute lymphatic leukaemia (2), oral cavity (2) and other malignancies seen one each in Hepatocellular carcinoma, Non-Hodgkin's lymphoma, Carcinoma pancreas, Pleomorphic adenocarcinoma left parotid and Metastatic carcinoma of lumbar spine.

Out of 100 cases studied, specific skin metastasis seen in 6 (6%) cases, among which 5 (5%) cases were contiguous and 1 (1%) was non-contiguous. Ulcer was noted in 2 cases and skin nodules were noted in 6 cases (Table 1) and nonspecific skin lesions in 9 (9%) cases.

Non-Specific Skin Lesion

Nonspecific skin changes seen in 9 (9%) cases, in which commonest was acquired ichthyosis, 3 (3%) seen in carcinoma oesophagus, 2 (2%) in carcinoma stomach and 1 (1%) in non-Hodgkin's lymphoma. Generalized pruritus, petechial haemorrhage and acanthosis nigricans found 1 each in hepatocellular carcinoma, acute lymphatic leukaemia and carcinoma breast respectively. Drug eruption in the form of generalized maculopapular rashes due to Zoledronic acid infusion was seen in 1 case of carcinoma rectum.

A	Contiguous			
Sl. No.	Skin Lesions	Type	Site	No. of Patients
1.	Nodules-multiple Ulcer-single	Ca breast (Lt)	Chest	1
2.	Nodules-multiple Ulcer - single	Ca penis	Perineum	1
3.	Nodule - multiple	Ca breast (Rt)	Chest	1
4.	Nodule - multiple	Hepatocellular carcinoma	Face, neck, chest, abdomen, back, arms and thigh	1
5.	Nodules - multiple	Ca Nasopharynx	Face, neck, chest, abdomen, back, arms and thigh	
B	Non-contiguous			
1.	Nodule - multiple	Ca oropharynx (Rt)	Face, neck, chest	1

Table 1: Distribution of Specific Metastatic Skin Lesion

Site	Brownstein et al %	Thakaram et al %	Rajagopal et al %	Ayyamperumal et al %	Present Study %
Scalp	5	8	10	4	Nil
Face	6	5	14	9	5
Neck	12	6	5	11	9
Upper Extremity	6	10	10	9	8
Lower Extremity	4	11	19	13	6
Chest	31	26	32	21	30
Abdomen	20	16	Nil	17	20
Back	8	15	5	11	16
Perineum	8	3	5	5	6
Total	100	100	100	100	100

Table 2: Comparison of Site of Cutaneous Metastases with Other Studies

Fig. 1: Metastatic Nodules over Abdomen in Hepatocellular Carcinoma

Fig. 2: Biopsy Ulcer Tongue-Squamous Cell Carcinoma with Epithelial Pearls (Arrow) seen. H&E Stain, 10x

DISCUSSION

In malignant tumour, metastasis is known but skin is an infrequent site for metastasis and listed in one study as only the eighteenth most common site.¹ Cutaneous metastasis can

arise at any age, but most cutaneous metastasis occurred during or after the fifth decade.^{2,3} Cutaneous metastasis can arise at any age. In the present study cutaneous metastases were 50% in fifth decade and above, which correlates with study of Rajagopal et al.

Cutaneous metastasis of primary malignant lesions occurs in 3-4% of patients in different studies.¹ Cutaneous metastatic lesions are usually multiple and may range from 1 to 100.^{3,4}

In the present study cutaneous metastases is 6%, in which contiguous 5% and non-contiguous 1% and increase in incidence is due to direct infiltration of skin or through lymphatics or through blood vessels, which correlates with study of Rajagopal et al. According to Brownstein et al, the most common internal malignancy which gives rise to cutaneous metastasis was carcinoma lung and colon in males, carcinoma colon and ovary in females. Overall melanomas are commonest followed by carcinoma breast, carcinoma oral cavity, lungs, colon and ovary.⁵

In the present study the carcinoma oropharynx was 15%, followed by carcinoma oesophagus, cervix and breast 10% each, carcinoma oral cavity 7%, carcinoma larynx, rectum, stomach, ovary and acute lymphatic leukaemia were 6% each and lung 3%. The commonest malignancy in males was carcinoma oropharynx (12%) followed by oesophagus (7%), oral cavity (6%), larynx (6%) and in females, carcinoma of breast (10%), cervix (10%) and ovary (6%). Brownstein et al stated that carcinoma oesophagus was an uncommon cause for cutaneous metastasis responsible only in 15 (2%) of 724 cases and 9 (1.5%) of 588 cases of cutaneous metastasis.⁵ According to Brownstein et al and Thakaram S, anterior chest wall is the commonest site of cutaneous metastatic lesion.^{5,6}

In the present study, carcinoma breast causing cutaneous metastases seen in 2 cases and one case each in carcinoma oropharynx, nasopharynx, liver and penis. According to Theirs et al, survival period in patients with cutaneous metastasis is said to be around 3 months.⁷ Abrams et al stated that skin is the infrequent site for metastasis and skin lesions are often easily accessible for biopsy and histopathological examination.⁸

In the present study metastatic skin lesions of carcinoma oropharynx involves face, neck and chest. Hepatocellular carcinoma (Figure 1) and nasopharyngeal carcinoma involves face, neck, chest, back, abdomen, arm and thigh. Carcinoma penis involves perineum and carcinoma breast involves the chest.

According to some authors most common malignant tumour that metastasises to skin was carcinoma lung and breast. The lesions on face, scalp, chest and shoulder may be the only presenting feature of unsuspected primary tumour and histopathology reveals the identity of the primary tumour.^{9,10}

In the present study, squamous cell carcinoma was the commonest type (Figure 2). The commonest site for cutaneous metastasis was chest (30%) followed by abdomen (20%), back (16%), neck (9%), upper extremity (8%), lower extremity (6%), perineum (6%), face (5%) (Table 2) and it correlates with study of Brownstein et al and Thakaram S. Delaney WE et al, report that longer survival for periods ranging from 1 to 4 to even 10 years.¹¹

In the present study patients survived for 6 months to 2 years after treatment, but 5 years followup is required to know the outcome.

According to Welch JL et al, 3 non-specific skin changes were found with increased predisposition in patients with malignant diseases as compared to control and those were acquired ichthyosis, generalized pruritus and herpes zoster.

All the cases of acquired ichthyosis had lymphomas. Both acquired ichthyosis and generalized pruritus were more common in Hodgkin's lymphoma than in non-Hodgkin's lymphoma.¹²

In the present study nonspecific skin changes seen in 9 (9%) cases, in which commonest was acquired ichthyosis, 3 (3%) seen in carcinoma oesophagus, 2 (2%) in carcinoma stomach and 1 (1%) in non-Hodgkin's lymphoma. Generalized pruritus, petechial haemorrhage and acanthosis nigricans one each in hepatocellular carcinoma, acute lymphatic leukaemia and carcinoma breast respectively. Drug reaction noticed in one case of carcinoma rectum to Zoledronic acid infusion and patient had developed generalized maculopapular rashes.

CONCLUSION

Cutaneous metastases are relatively uncommon and occur late in malignancy. Non-specific skin lesions are common compared to specific skin lesions. Contiguous metastases are more common in breast malignancy and often herald the recurrence after surgery. The incidence of cutaneous metastasis is common in patients who belong to low socioeconomic group and who indulge in smoking, alcohol consumption and tobacco chewing. Cutaneous metastasis indicates there may be wide spread metastasis to distant site. Early recognition and treatment of cutaneous metastasis will help in prolonging the life of patient.

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