STUDY OF DERMATOLOGICAL MANIFESTATION IN INTERNAL MALIGNANCIES

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ABSTRACT

BACKGROUND
Detecting cutaneous metastasis as early as possible is very important, not only for diagnosis, but also for the treatment of the primary tumor.

OBJECTIVE
Present study was aimed to find out various clinical types of cutaneous manifestation in patients of internal malignancy and to study various cutaneous complications of chemotherapeutic agents.

MATERIALS AND METHODS
Hundred patients with internal malignancies involving various organs were studied from 2006 to 2007. Detailed history, thorough cutaneous and systemic examination was carried out. Liver function test and hematological investigation were also performed.

RESULTS
There were 56% males, and maximum number of cases (24%) was from the age group of 41-50 years and low socioeconomic class (51%). Maximum cases (43%) were addicted to one or more agents. Paraneoplastic syndrome was most common among population in that clubbing was the most common. Maximum cases developed dermatoses after manifestation of sign and symptoms of malignancy.

CONCLUSION
Cutaneous metastases become important to identify to prevent internal visceral metastases.

KEYWORDS
Malignancies, Dermatoses, Paraneoplastic syndrome.

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INTRODUCTION: Spread of cancer from the site of primary origin to the skin is known as cutaneous metastasis.[1] Skin metastasis can be considered as the primary sign of advanced cancer or indicate its recurrence.[2,3] Prevalence of skin metastases is 9% among all cancer patients.[3]

The advantage of detecting the skin involvement is cutaneous manifestations may develop before a diagnosis of malignancy and it provide the most accessible site for biopsy.

Present study was performed to find out various clinical types of cutaneous disorders in patients of internal malignancy and to study various cutaneous complications of chemotherapeutic agents.

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MATERIALS AND METHODS: Hundred patients with internal malignancies involving various organs attending the J A Group of Hospitals, G R Medical College and Cancer Hospital & research Institute, Gwalior were included in the study from March 2006 to April 2007.

A written informed consent from all the patients and Institutional Ethics committee approval was taken before commencing study.

Consecutive cases of dermatoses influenced by malignancy or antineoplastic therapy attending the indoor and outdoor facilities were included in the study. Proved cases of internal malignancy confirmed by endoscopy, colonoscopy, Ultra Sonography (USG), CT scan, MRI and histopathological investigation were included in the present study. Patients with primary cutaneous malignancies were excluded from the study.

Detailed history, thorough cutaneous and systemic examination was carried out in all cases. In haematological investigation haemoglobin level, Total Leukocyte Count (TLC), Differential Leukocyte Count (DLC), Erythrocyte Sedimentation Rate (ESR) and peripheral smear examination was done.

Liver function test including serum bilirubin, SGOT, SGPT and ALP was done. In renal function test blood urea, serum creatinine and serum uric acid level was performed. In Radiological examination (for relevant cases only) chest X-ray, USG (upper and lower abdomen), CT scan, MRI and barium meal study was performed.

RESULTS: In present study out of 100 malignancy patients, 56% were male and 44% were female. Maximum numbers of cases (24%) were from the age group of 41-50 years. Table 1 shows distribution of characteristic of study population.

According to Kuppuswamy, cases were distributed according to socioeconomic status. Maximum cases of malignancies were from low socioeconomic class (51%) followed by medium socioeconomic class (47%) and only 2% cases belong to high socioeconomic class.

Parameters		Male	Female	Total
Age	0-10	1	2	3
	11-20	4	1	5
	21-30	3	7	10
	31-40	14	7	21
	41-50	12	12	24
	51-60	11	12	23
	61-70	9	3	12
	71-80	2	0	2
Education Level	Illiterate	17	26	43
	Primary	4	6	12
	Middle	7	8	15
	High School	7	2	9
	Higher Secondary	9	2	11
	Graduation and more	12	0	12
Addiction	Smoking	38	3	41
	Tobacco chewing	24	4	28
	Alcoholism	4	0	4
Dietary Habit	Vegetarian	20	26	46
	Non-vegetarian	36	18	54

Table 1: Distribution of characteristic of study population

Paraneoplastic Syndrome	Male	Female	Total
Acanthosis nigricans	0	1	1
Acanthosis Palmaris or tripe palms	4	0	4
Erythema gyratum repens	0	1	1
Paraneoplastic acrokeratosis	1	0	1
Acquired Icthyosis	2	1	3
Pruritus	0	2	2
Migratory thrombophlebitis	1	0	1
Pyoderma gangrenosum	1	0	1
Sign of leser trelat	0	2	2
Seed like keratosis of the palm and soles	2	0	2
Clubbing	8	2	10
Herpes infection	0	1	1
Cushing's syndrome	0	1	1
Others (non-specific)	0	3	3

Table 2: Distribution of Paraneoplastic Syndrome

Study of cutaneous manifestation in present population showed that maximum cases of dermatoses were of paraneoplastic syndrome followed by 5 cases of direct tumour spread and 6 cases were of malignancy. There was no case in genetically determined syndrome group and in groups of cutaneous markers of exposure to carcinogens. Chemotherapeutic agents. Anatomical distribution of malignancies showed that maximum cases (28 out of 44) in female were from reproductive organs (cervix, ovary and breast) and in male maximum cases (10 out of 56) were from lower respiratory tract (lung and bronchus). There was no case of oral cavity, larynx and vocal cord, lung and bronchus, bone and urinary bladder malignancies in female group.

Out of 100 cases, 52% were presented within 3 months, 16 were presented between 4-6 months, 12 were presented between 7-9 months, 8 cases were presented between 10-12 months and 12 cases were presented after 12 months of onset of signs and symptoms of the malignancy.

Out of 33 paraneoplastic syndrome cases, 10 developed dermatoses prior manifestation of signs and symptoms of malignancy, 15 cases developed dermatoses after manifestation of sign and symptoms of malignancy and 8 cases developed dermatoses along with sign and symptoms of malignancy.

Out of 10 clubbing patients (table 2), 4 cases developed clubbing after and 4 cases before developing sign and symptoms of malignancy. Two cases developed clubbing simultaneously with sign and symptoms of Three cases have dermatoses with clubbing (one patient of acanthosis Palmaris and two cases of seed like keratoses of palms and soles).

Three cases of paraneoplastic syndrome were associated with hair loss in the form of diffuse alopecia and total alopecia (one patient of each of acquired ichthyosis, secondary cutaneous metastases and pyoderma gangrenosum). One patient of herpes infection (herpes labialis) associated with purpura was also present.

Out of 8 cases who experienced hair changes, seven have loss of hair (6 cases had diffuse alopecia and one patient had total alopecia) and one patients had excessive hair growth. Out of 7 cases of hair loss, 4 developed (3 cases had diffuse alopecia and one had total alopecia) these changes after receiving antineoplastic therapy.

In present study, out of 14 cases of different malignancy who were taking antineoplastic agent, 6 cases developed antineoplastic therapy induced dermatoses. Loss of hair was most commonly (4 out of 6 cases) occurring dermatoses in form of diffuse alopecia (3 out of 4 case) and total alopecia (1 out of 4 cases), which was cyclophosphamide related in most of the cases.

DISCUSSION: In present study all cases of malignancy were proved either by radiological or histopathological investigations**.** There were 56% males in present study which suggest that malignancies are more common in males, similar findings have also been reported by Ayyamperumal and Bologgnia et al.[4, 5]

Middle aged cases (41-50 years) were the most common age group observed in our study. Similar findings were reported by Gul et al.[6] Different Malignancies have their specific age of presentation. 61% cases of present study were above age of 40 years and comprise the malignancies of mouth, oropharynx, oesophagus, stomach and lower respiratory tract in males and cervix, breast, ovary, hepatobiliary tract, lower GI tract in females. Similar findings have also been reported by WHO.[7] Gul et al also reported that among cutaneous metastases, in female breast cancer was most common and lung cancer in males.[6]

In present study, maximum patients belong to low socioeconomic class, similar data was reported by Reddy et al.[8] People of low socioeconomic class have lack of access to medical facilities, poor nutrition, absence of awareness for the sign and symptoms of disease, so they were more at risk for developing malignancies. Another reason for this finding may be due to that hospital where present study was done received cases mostly from the lower sections and semi urban and rural areas.

As evident from our observations, education status of studied cases was poor, about half of the cases were illiterate (where females were more than males), this along with poor socioeconomic status again favour the higher incidence of malignancies in these cases.

Most of the cases were addicted to one or other substances, most of the cases smoked bidi/cigarette (41%) followed by tobacco chewing (28%), lease addicted agent was alcohol (4%).

Maximum cases of malignancies in females were from reproductive organs and in males maximum cases were from mouth/oropharynx and lower respiratory track, similar data was revealed by Coldwell et al.[9] Most of the cases (52%) in present study presented within 3 months of the onset of signs and symptoms. Clubbing was the most commonly occurring dermatoses in present study. It may be due to the reason that most of the cases were addicted to smoking and tobacco chewing, which might be cofounding factor for such high number of cases, as reported by other authors. Coldwell et al demonstrated the association of clubbing with many neoplasms.[9]

In present study 14 cases were taking antineoplastic therapy out of which 6 cases developed chemotherapeutic agents induced dermatoses in the form of hair loss. Kanti et al reports that hair loss is the most commonly occurring chemotherapeutic agents induced dermatoses; most frequently involved site was scalp and usually associated with doxorubicin, nitrosoureas and cyclophosphamide.[13] Similar to above study, hair loss involved the scalp and cyclophosphamide was putative agent in most of the cases in the current study.

Cutaneous metastasis was found in 5 out of 100 studied cases in males. Underlying malignancies were Small Cell Carcinoma of lung, adenocarcinoma of lung, carcinoma of urinary bladder and carcinoma of prostate and in female patients underlying malignancy was carcinoma of breast. These findings are similar to Brownstein et al who reported that carcinoma of breast, lung, colon, stomach; upper aero-digestive tract, uterus, prostate and kidney are the most common causes of cutaneous metastasis.[10]

Acanthosis Palmaris, acquired ichthyosis, sign of laser trelat, seed like keratoses of palms and soles, pruritus, purpura, acanthosis nigricans, pyoderma gangrenosum, erythema gyratum repens, paraneoplastic keratoses, migratory thrombophlebitis, herpes labialis, Cushing's syndrome hyperpigmentation were the most common dermatoses in paraneoplastic syndrome. Similar dermatoses were reposted by different authors.[11]

CONCLUSION: Unidentified cutaneous metastases due to poor prognosis reduce the survival period of cases. Though the skin is 18th most common site for metastases but it is easily accessible tissue for biopsy and histopathological investigation.[12] Internal response to any antineoplastic agent can easily be assessed by visible inspection of skin metastasis. Cutaneous metastases become important to identify to prevent internal visceral metastases and prolonging patients' survival.

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