

## PATTERN OF CUTANEOUS METASTASES (Analysis of 50 cases)

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An analysis of 50 patients having cutaneous metastasis arising from various malignancies revealed that the primary tumours in men were carcinomas of the lung (14%), oesophagus (8%), stomach (6%) and melanoma (6%). The most common primary tumours in women were carcinomas of the breast (20%), ovary (8%), lung (6%) and cervix (4%). The cutaneous metastases were commonly distributed over the anterior part of the chest and rarely occurred over the perineum.

**Key words : Metastasis, Malignancies.**

We have analysed the pattern of cutaneous metastases seen by us, arising from various primary malignancies.

### Materials and Methods

The clinical material in this study was randomly collected from the medical, surgical, dermatological and cancer chemotherapy departments. Histopathologic documentation of the skin metastases and all the identifiable primary malignancies was obtained. Patients having specific skin infiltrates from leukaemia and lymphoma, lesions in the mucosa and mucocutaneous junctions, the neoplastic deposit situated below the subcutis or infiltrating into the dermis from below were excluded. Each patient was thoroughly examined and the relevant historical information and physical findings were recorded.

### Results

#### Patterns according to age

Age was not a very important factor in the patterns of cutaneous metastases. The youngest patients in this series were affected by uncommon malignancies—Ewing's sarcoma (M/17), osteogenic sarcoma (M/20) and choriocarcinoma (F/26). In men under 50 years of age the

commonest malignancies were carcinoma of the lung (2) and carcinoma of the stomach (2). In women under 50 years of age the commonest malignancies were carcinoma of the breast (3), lung (2) and ovary (2). In men over 50 years of age the commonest malignancies were carcinomas of the lung (5), melanoma (3), oesophagus (3) and stomach (2); in women over 50 years of age the common malignancies were of the breast (7), ovary (2) and cervix (2).

#### Patterns according to sex

Sex was the most important factor governing the patterns of cutaneous metastases. Of 26 men with cutaneous metastases, the 4 commonest primary malignancies responsible were carcinomas of the lung (7), oesophagus (4), melanoma (3) and stomach (3). Of 24 women with cutaneous metastases the 4 commonest primary malignancies giving rise to cutaneous metastases were carcinomas of the breast (10), ovary (4), lung (3) and cervix (2).

#### Patterns according to race

All the patients were from south India and racial patterns were not applicable.

#### Patterns of cutaneous localisation

Cutaneous metastases tended to occur more commonly in some sites than in others. In men the commonest sites of metastatic lesions were found over the skin of the lower extremities, chest, abdomen, back and flank and upper

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extremities. In women the commonest sites of metastases were the skin of the chest, abdomen and scalp. Most of our patients had skin nodules at one site only. Multiple sites were involved in only 12% of patients.

**Scalp :** The scalp was not an uncommon site with 8 out of 50 cases developing cutaneous metastases to the scalp. In the 4 men with scalp metastases, the primary tumour was in the lung, parotid, nasopharynx and the fourth from an unidentifiable primary carcinoma. In the 4 women with scalp metastasis, the primaries were in the lung (2), neurofibrosarcoma (1) and oesophageal carcinoma (1). Our incidence of scalp metastases is 16%. None of our female patients with carcinoma of the breast developed a scalp metastasis. Cutaneous metastasis to the scalp was a presenting sign in only one patient who was a female.

**Neck :** Only 4 males developed cutaneous metastases to the neck arising from carcinoma of the oesophagus, tongue, nasopharynx and from an unidentifiable primary. None of the females had cutaneous metastases to the neck. Cutaneous metastases to the neck was never a presenting sign in any of our cases. Cases with cutaneous metastases developing from subjacent large lymph node metastasis were excluded from the study.

**Face :** Only 4 out of 50 cases developed cutaneous metastases on the face. In 2 males the malignancy of origin was carcinoma of the parotid and nasopharynx whereas in 2 females the primary malignancy was from a uterine choriocarcinoma and carcinoma of the breast. In none of them was the cutaneous metastasis a presenting feature. Special mention may be made of a case of choriocarcinoma metastatic to the nose and presenting with epistaxis.

**Upper Extremities :** Cutaneous metastases of the upper extremities accounted for 16% of the cases. The commonest primaries in males were carcinoma of the lung and oesophagus.

Only one of our cases developed a cutaneous metastases from an ocular malignant melanoma. Only one female had a cutaneous metastasis to the upper extremity from carcinoma of the breast.

**Lower Extremities :** This accounted for 22% of the cases and was one of the commonest sites of cutaneous metastasis in men. Of 9 men cutaneous metastases to the lower extremities originated from carcinomas of lung (1), melanoma (2), oesophagus (1), rectum (1), nasopharyngeal carcinoma (1), Ewing's sarcoma (1), osteogenic sarcoma (1) and an unknown primary (1). In two females with cutaneous metastases in this region, the primary malignancies responsible were carcinomas of the lung and cervix respectively. That from carcinoma of the cervix represents an unusual example of a plaque metastasis on the back of the thigh.

**Anterior Part of the Chest :** This was one of the common sites of cutaneous metastasis in men and the commonest site in women. Among 9 men with cutaneous metastasis to this region, the sources were carcinomas of the lung (3), oesophagus (2), melanoma (1), tongue (1), nasopharynx (1) and the unidentified primary (1). Of 12 women with cutaneous metastases to this region the primary malignancies were carcinomas of the breast (10), lung (1) and gall bladder (1). In only one case—a lady with bronchogenic adenocarcinoma, was the cutaneous metastasis a presenting feature. One of the cases of carcinoma of the breast developed a zosteriform metastasis.

**Abdomen :** This was the third commonest site of cutaneous metastasis in men and the second commonest site in women. Of the 6 men with cutaneous metastasis onto the abdomen, the primary malignancies comprised melanoma (1), carcinomas of nasopharynx (1), stomach (2), penis (1) and unidentified primary (1). Of 9 women with cutaneous metastasis onto the abdominal wall, the source of primaries were carcinomas of the breast (1), lung (10), cervix (1),

stomach (1) and ovary (4). Apart from one case of bronchogenic carcinoma, none of the patients presented with cutaneous metastases.

Cutaneous metastases to the umbilicus (Sister Joseph's nodule) arose from carcinomas of the stomach (2), cervix (1) and ovary (2), those from the ovary and cervix being very rare.

**Back and Flank :** Metastases to this region is uncommon. This is surprising for it accounts for about 20% of the body surface. In this study only 1 female (carcinoma breast) developed cutaneous metastases to the flank. Of 8 males who developed cutaneous metastases in this region, the malignancies of origin comprised carcinomas of the nasopharynx (1), lung (4), stomach (4), neurofibrosarcoma (1), melanoma (1) and primary unknown (1). None of these were the presenting feature of the malignancy.

**Pelvic Region :** Cutaneous metastases to this region was uncommon accounting for only 6% of all the cases. None were encountered in women. Of 3 males who developed cutaneous metastases in this region, the primary malignancy was from carcinomas of the rectum (1), penis (1) and primary unknown (1). There was no metastasis to the penis or vulva.

**Temporal Patterns :** Most of our cases developed cutaneous metastases only late in the disease. Only one case of bronchogenic carcinoma presented with cutaneous metastases, developing chest symptoms late in the disease. Long survival may occur despite the development of cutaneous metastasis, this is in contrast to the general grave prognosis such a development portends. With the exception of the above mentioned case, almost all the cutaneous metastases accompanied or succeeded the diagnosis of the primary malignancy. In only one case the primary malignancy was not identified despite elaborate investigations; excepting this one case, we seldom encountered problems in diagnosing the source of the primary malignancy.

## Comments

A cutaneous metastasis even though rarely, may be the presenting sign, indicating that a malignancy is lurking somewhere. Sometimes, cutaneous metastases may be mistaken for benign entities like dermatofibroma, neurofibroma or granuloma, thus a biopsy and dermatopathologic interpretation is necessary. Cutaneous metastasis is rare and our mean incidence of 1.4%<sup>1</sup> compares well with others.<sup>2</sup>

Adenocarcinomatous cutaneous metastases commonly arise from gastro-intestinal or bronchogenic adenocarcinoma.

One of our cases presented with extensive fungating skin nodules on both buttocks, and proved to be an adenocarcinoma, the malignancy of origin in the rectum was discovered by proctoscopy, while it was missed in the barium enema. Except in one case, the primary malignancy was identified in all the patients. This is in contrast to Brownstein-Helwig's series<sup>3,4</sup> where in quite a proportion of cases the primary malignancies remained unidentified.

Squamous cell carcinomas in the skin deposit usually arise from a bronchogenic carcinoma or an oesophageal carcinoma. Though Brownstein-Helwig<sup>3</sup> point to malignant melanoma as resembling squamous cell carcinoma in histopathology, we never encountered such a problem in any of our cases. Regional localisation of the cutaneous metastases showed some significant differences from the earlier reports.<sup>3</sup>

## References

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