

Cutaneous Metastases of Internal Cancers: A Retrospective Study about 12 Cases

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Abstract

The skin is an uncommon site of metastasis of the internal cancers. The majority of cutaneous metastases are diagnosed after the primary cancer; but they can be the telltale sign of an unknown malignancy. They represent a sign of poor prognosis with a survival rate not exceeding a few months. We report the results of a retrospective study conducted in department of medical oncology at Hassan II University Hospital, including 12 patients with cutaneous metastases. The aim of this work is to show the rarity of skin as metastatic site, to analyze the clinical aspects of cutaneous metastasis, the most criminalized primary cancers and the prognosis value of this metastatic localization.

Keywords: Skin; Metastasis; Chemotherapy

Introduction

Cutaneous metastases of internal malignant tumors are rare. They can have variable clinical appearances and can mimic benign skin lesions. They are usually seen in patients with advanced disease, but they can be the presenting lesion. They are frequently a sign of poor prognosis.

Patients and Methods

It is a retrospective study, including patients with histological proven cutaneous metastasis treated in the department of medical oncology at Hassan II University Hospital between January 2007 and October 2011.

Results

During the period of study, only 12 cases of cutaneous metastases were collected. It represents 0.46% from all cancer patients collected in this period. In all cases, cutaneous metastases were confirmed histologically. It was characterized in 8 cases by the presence of dermal tumor proliferation, in 2 cases by hypodermal proliferation and in the 2 other cases by both dermal and hypodermal malignant development. Vascular invasion was noted in 6 cases. The mean age was 55, 3 years (range: 40-70), with female predominance (8 cases). The cutaneous metastases originate from breast cancer (n=6), lung cancer (n=3), hepatocellular carcinoma (n=1), larynx carcinoma (n=1), and biliary tract carcinoma (n=1). In 7 cases, the cutaneous metastases revealed the primary cancer. In 5 cases, cutaneous metastases occurred after diagnosis of primary tumors, with a median of 6 months (2-18 months). Their diagnosis was simultaneous with the discovery of other metastatic sites. Their localizations were in chest (n=6) (Figures 1,2), neck (n=2), scalp (n=1), forearms (n=1), umbilical region (n=1) and face (n=1) (Figure 3). The skin lesion was single in 4 cases and multiple in 8 cases. They appear as erythematous and nodular painless lesions in most cases. Patient with umbilical nodular lesion (Sister Joseph's nodule) revealing biliary tract carcinoma died before treatment. Palliative chemotherapy was started in 11 patients. It was based on regimens specific to the primary tumor. Chemotherapy has allowed the improvement of cutaneous manifestations (Figures 4, 5). In our series 6 patients with breast cancer are still alive with a median follow-up of 10, 5 months. 5 patients died despite chemotherapy with a median survival not exceeding a few months (Table 1).

Cutaneous metastasis is defined by the presence and development, in the skin surface, of a malignant process whose origin is located at distance. The occurrence of cutaneous spread of internal malignancies is quite rare, despite the fact that the skin is one of the largest organs of the human body [1,2]. The frequency of cutaneous metastases is low, ranging from 0.3 to 9% according to the literature [3]. It puts the skin at the 12th place among the metastatic sites in cancer.

Cancer cells can invade the skin through the lymphatic, hematogenous or direct extension, but only lesions not contiguous to the primary tumor are considered as metastases. This restriction excludes Paget's disease of the breast, because these lesions represent a direct extension of cancer cells to the skin. Skin implant metastasis has been observed after percutaneous radio-frequency therapy of a liver metastasis of a colorectal carcinoma [4].



Figure 1: Multiple erythematous lesions located on the chest originating from breast cancer (Before chemotherapy).

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Most common sites of cutaneous metastases are the neck and head region and the trunk which is consistent with our results. The epigastric area seems to be particular prone for cutaneous spread of metastases. Periumbilical metastasis is also known as Sister Mary Joseph's nodule [5]. On the other site, metastases on the limbs are even rarer [6,7].

The most common primary malignancies in males are lung cancer and colon cancer. In females breast cancer is the most common with a cutaneous spread [8,9]. There is a very low percentage of renal, thyroid gland, ovarian carcinoma, and bladder cancer with cutaneous filiae [10-14]. Extremely rare are cutaneous metastases in carcinoids or chordoma [15,16]. Indeed, in our study breast cancer is the most



Figure 2: Chest localization of cutaneous metastasis revealing lung cancer (Before chemotherapy).



Figure 3: Single erythematous nodular lesion of the face revealing hepatocellular carcinoma.



Figure 4: Multiple erythematous lesions located on the chest originating from breast cancer (after chemotherapy).



Figure 5: Chest localization of cutaneous metastasis revealing lung cancer (After chemotherapy).

implicated in women and it is lung cancer which is the most common in men.

The most common clinical presentation of cutaneous spread of internal cancer is the developments of nodules, usually firm and painless [17]. However, other clinical presentations include neoplastic alopecia, carcinoma erysipelatoides, erythema annular like, herpetiform or zosteriform, target-like, pyodermatic, and morphea-like lesions [18].

The confirmation of a cutaneous metastasis is not always simple. Fine needle aspiration cytology may be used as a minimal invasive diagnostic tool [9], but complete excision is still the method of choice to ensure the best quality of histopathologic examination.

Histology revealed a variable morphological differentiation, the cells are undifferentiated and frequently do not allow the recognition of the primary tumor [1]. They rarely keep the histological characters recognizable of the primary tumor. The metastases can involve dermis, hypodermis or both with sometimes presence of vascular invasion.

Though cutaneous metastases by themselves rarely cause any severe medical problems, they may be a sign of unknown internal malignancy, recurrence of malignant disease or a preterminal event [2]. In many cases, spread to the skin is a sign of systematic spread of disease and therefore a sign of poor prognosis with low survival [2, 19,20]. High-resolution and Color Doppler sonography can be helpful in the evaluation of skin metastasis [21]. Hypo echoic, irregular nodules with high vascularity are highly suspicious of metastasis. In any case they deserve a histopathologic examination that should be accomplished by immunostaining in case of discrepancies to the presumed primary cancer.

Effective treatment depends on treatment of the underlying tumor. Palliative care is given if lesions are asymptomatic and the primary cancer is untreatable. This care includes keeping lesions clean and dry and debriding the lesions if they are bleeding or crusted. Hydrocolloid dressings may be used to help prevent secondary infection [22]. Local treatment is conceivable in the case of a single lesion or in order to improve life quality (pain). The single small metastasis can be treated surgically (excision), for multiple lesions grouped, or very painful lesions, they can be irradiated. But chemotherapy remains the standard treatment of metastatic disease. It must be based on regimens specific to the primary tumor.

Despite treatments, cutaneous metastasis is a sign of poor prognosis with a survival rate not exceeding a few months [2].

Primary cancer	Number of cases	Topography of cutaneous lesion	Treatment	Evolution
Breast	6	*Chest (5) * Scalp (1)	Chemotherapy	Clinical response (>50% in all cases) All patients still alive (median survival : 10,5 months)
Lung	3	*Chest *Neck *Forearms	Chemotherapy	*Clinical response (30%) then progression => death *Disease progression => death *Disease progression => death
Hepatocellular carcinoma	1	Face	Chemotherapy	*Disease progression => death
Biliary tract	1	Peri-umbilical	-	Death
Larynx	1	Neck	Chemotherapy	Current

Table 1: Topography, origin and outcome of cutaneous metastases.

Conclusion

The skin is an uncommon site of metastasis of the internal malignancies. The majority of cutaneous metastasis is diagnosed after the primary cancer; it is rarely the telltale sign of an unknown malignancy. Cancers with cutaneous metastasis are frequently metastatic in other sites. The prognosis is poor with low survival rate.

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