

METASTATIC CARCINOMA OF THE SKIN

Erysipelas carcinomatosum

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ABSTRACT

Widely spread erythema of the skin is sometimes clinically non-diagnostic. In the case of our 54 year old female patient the skin biopsy from an erythema which was expressed on the anterior and lateral surfaces of the neck, in the left clavicular and sternal areas, revealed nests of malignant epithelial cells in the dermis. The primary tumor was detected by an analysis of bioptic material obtained by a needle biopsy from a palpable tumor in the left breast: groups of malignant epithelial cells. An X-ray film enclosed islets of homogenisation and rarefaction in the lumbosacral segment of the spine and pelvic bones. Due to widely spread metastases the patient was transferred to the Institute of oncology for cytostatic treatment.

KEY WORDS

skin metastases, erysipelas carcinomatosum, breast cancer, bone and lymphatic nodes metastases.

INTRODUCTION

Metastatic malignant skin tumors are a relatively uncommon event in most dermatological practices. They are defined by RA Mackie as follows: A tumor formed by malignant cells originating from another site and frequently from another tissue which are conveyed to the skin by the blood or lymphatic circulation (1).

Metastasis is not a simply tumor cells breaking off from the primary neoplasm and lodging in a distant tissue, but rather a complicated biologic process comprising six conceptual steps (2): 1.) detachment from primary tumor, 2.) invasion and introvasation of these cells into a vessel, 3.) passage through the blood or lymphatic circulatory system, 4.) stasis in a vessel at the recipient bed, 5.) extravasation through the

vessel wall and invasion of the recipient tissue and 6.) proliferation within this tissue. The above listed steps are rather complicated biologic processes, one of them is the activity of specific receptors on tumor cells which facilitate the attachment to the matrix or basement membrane components of a capillary vessel. Some highly aggressive actively invading tumor cells express laminin receptors in quantities that are 50 times normal (3). Hydrolytic enzymes then degrade the matrix and thus enable a successful intravasation and circulation in the lymph and blood vessels. The mechanism of stasis may be a random tumor cell thrombosis or a site specific attachment in which the tumor cell selectively adheres to a specific organ's vessel wall. It is believed that for the extravasation and invasion of the

malignant cells into the target organ mechanisms similar to the intravasation are in operation (4).

The proliferation of the tumor cells in the recipient tissue again depends on the activity of various mechanisms (5). First to be mentioned are local growth factors, mitogenic factors as well as others, including an altered sensitivity to these factors. Such proliferation may be further enhanced by the ability of the tumor cells to produce their own growth factors, the so-called autocrine growth factors (6), which enable tumor cells to grow in distant organs without the presence of other local growth factors. The ingrowth of a rich vascular supply net which makes possible the growth of micrometastases is provoked by angiogenic factors. Some tumors have been found capable of releasing such factors (7). A special problem present the site specific metastases (8).

CASE REPORT

The 54-year old female patient who had a history of diabetes lasting for 2 years came for consultation to the Department of dermatology of the Medical school in Zagreb in February 1990 and was immediately admitted in order to carry out the necessary detailed clinical investigation. Seven months earlier she noticed a swelling of the left side of the neck and later on an erythema appeared at the same site. The erythema spread progressively to the anterior part of the neck as well as towards the sternal region. Otherwise her medical history was uneventful. Before coming to the Department of dermatology she was admitted to a local hospital where the tentative diagnosis of malignant lymphoma was made. The patient was in good general physical condition and did not complain of serious health problems.

At the time of admittance the following skin changes were observed: the skin of the sternal region, of the left clavicular region as well as of the entire anterior and left aspects of the neck was diffusely erythematous, slightly edematous and infiltrated (fig. 1 and 2). The altered surface was not sharply demarcated from the normal skin. The left breast was enlarged as compared to the right side. The lymphatic glands of the size of hazel nuts were palpable in her left axilla.

The X-ray examination revealed in the lower part of the thoracic spine non-homogeneous foci suspected to be secondary manifestations. In the lumbosacral segment of the spine there were also expressed spots of a non-homogeneous bone structure including small areas of sclerosis and rarefaction which were even more similar to osteolytic and osteoplastic manifestations characteristic of a secondary involvement of the basic neoplastic process. X-ray film of the pelvic bone as well as os ischii and os pubis included also areas of non-homogeneous bone structure and a larger non-homogeneous area in the vicinity of the right sacroiliacal joint (fig. 3).

Such non-homogeneous islets speak strongly for secondary manifestations of the basic malignant process.

Laboratory tests revealed increased glucose fasting values of 12.1 and later 8.3 mMol/l, increased values of alkaline phosphatase 323 IU and on repeated assaying 381 IU (normal values up to 40 IU), as well as increased values of the carcinoembryonal antigen of 13 ng/l (normal values up to 3 ng/l). There was also a disproteinemia, but other laboratory tests were within the normal limits. The gynecologists observed only a right side chronic adnexitis.

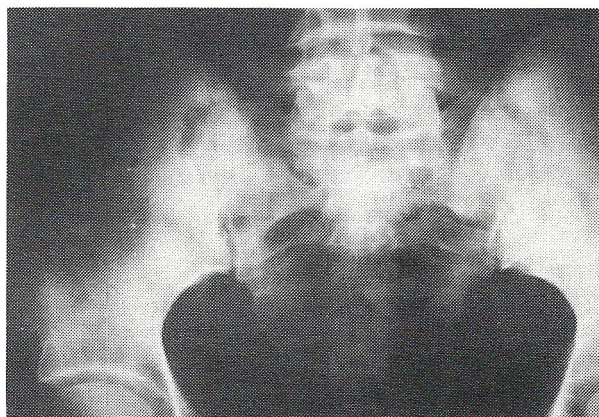


Fig. 3 X-ray film of the lumbosacral spine and pelvic bones. Spots of homogenisation and rarefaction characteristic for secondary manifestations of the basic malignant process.

Pathohistology of the biopsized erythematous skin disclosed islets of carcinomatous epithelial cells inside the dermis which fact confirmed the diagnosis of metastatic carcinoma of the skin (fig. 4). A needle biopsy of the palpable tumor in the left breast revealed a number of atypical epithelial cells, which were immediately recognized by the cytologist as malignant. (fig. 5). By a needle biopsy of the lymphatic node from the neck groups of malignant epithelial cells were detected (fig. 6). The bone marrow investigation from the iliac crest revealed also groups of malignant epithelial cells (fig. 7).

DISCUSSION

Dermatologists do not encounter skin metastases very frequently, there are however opinions according to which this should happen in 3 - 4 % of malignant tumors (9).

Evidently the preconditions for a successful growing of metastases mentioned in the introduction are not often present in the skin. The most frequent primary sites are breast, stomach, lung, uterus, large intestine, kidney, prostate gland, ovary, liver and bone (1). The commonest skin tumor to metastasize into the skin is malignant melanoma.

Carcinoma of the breast provokes sometimes an erythema of the skin which can be more or less similar to erysipelas. Such rare skin lesions are mentioned in the literature as erysipelas carcinomatosum (10). The skin lesions in our patient were identical with this description.

In the case of our patient the primary site of the carcinoma was the breast which fact was verified by the enlarged left breast and the needle biopsy of the same breast. The infiltrated and erythematous skin of the upper sternal and neck areas, where nests of metastatic carcinomatous cells were detected by biopsy, support such conclusion. The needle biopsies of the bone marrow and a lymph gland as well as the X-ray examinations of dorsal column and the skull show clearly that the metastases were widely spread throughout the body. Due to the widely spread metastases the patient was transferred to the Institute of oncology in Zagreb for cytostatic treatment.

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Fig. 1 Erysipelas-like erythema on the anterior aspect of chest and neck. The left breast is slightly enlarged

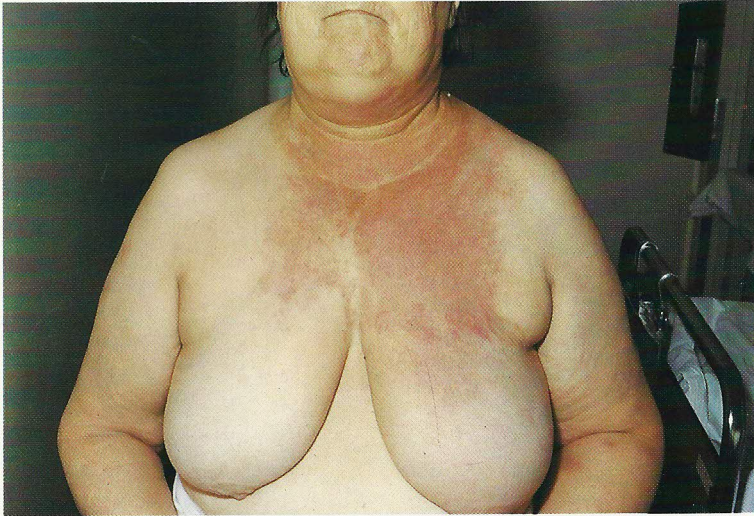
Fig. 2 The same patient, lateral view

Fig. 4 Biopsy specimen of erythematous skin. Islets of malignant epithelial cells in the dermis

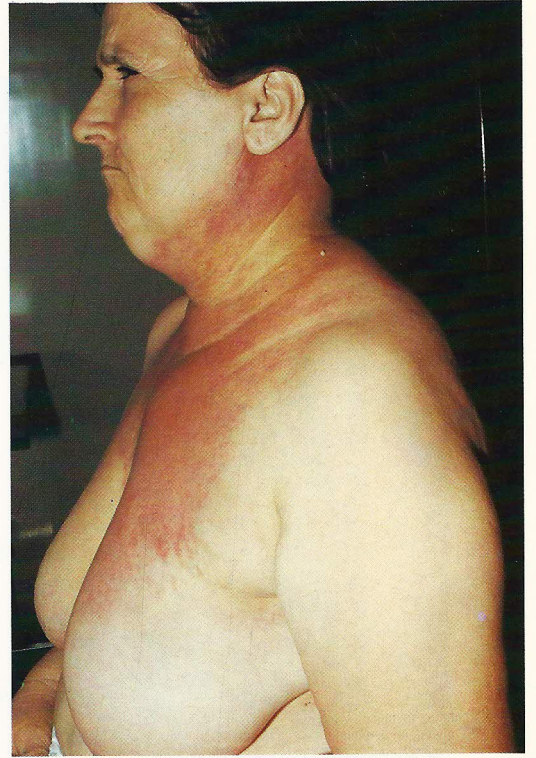
Fig. 5 Needle biopsy of the left breast. Malignant epithelial cells

Fig. 6 Lymph node from the neck. A group of malignant epithelial cells obtained by needle biopsy

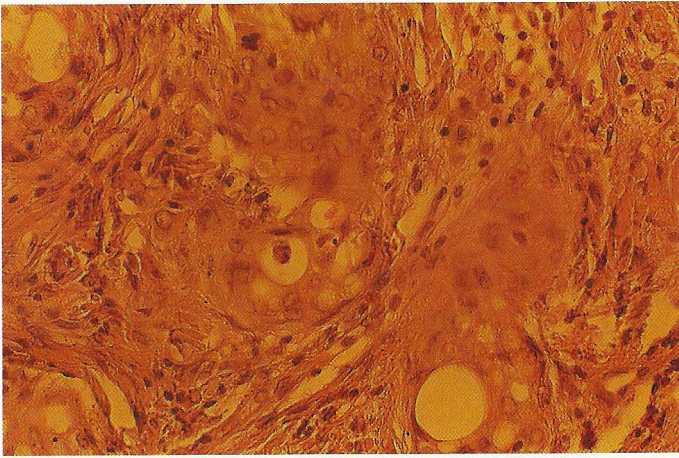
Fig. 7 Bone marrow. A group of malignant epithelial cells



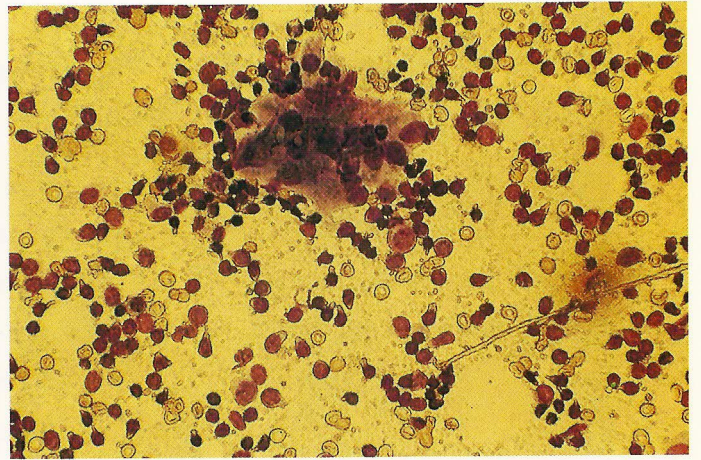
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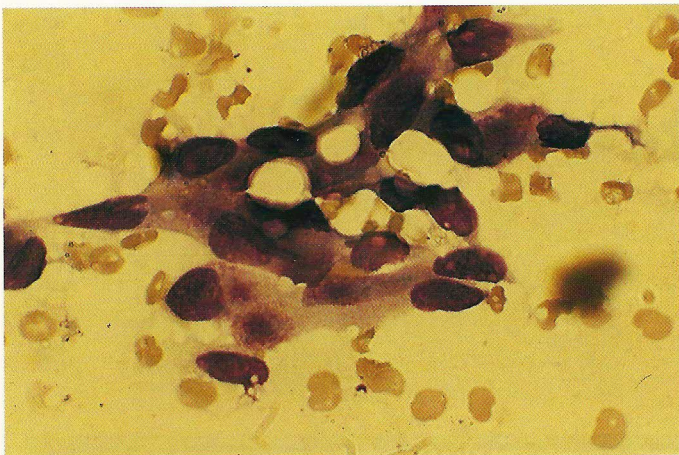
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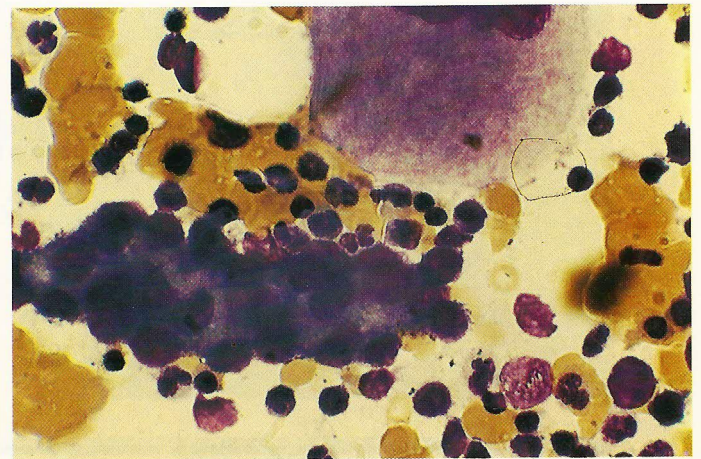
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