

A recurrent headache and cranial bone osteolysis finally lead to a breast cancer diagnosis

Magdalena Vișănescu

National Institute of Aerospace
Medicine Bucharest

Correspondence:

Magdalena Vișănescu

e-mail: visanescu_magdalena@yahoo.com

Condensation

Detecting a mammary neoplasma through the investigation of a cephalalgia implied highlighting some cranial areas of radiological osteolysis as possible bone metastases zones.

Abstract

A 54 year old woman with a recurrent headache was investigated. On the cranial radiography areas of bone resorption were identified, a reason for which the evaluation was enlarged. The mammographic exam, 4c BIRADS class

(Breast Imaging Reporting and Data System), raised the suspicion of a breast cancer confirmed by the excisional biopsy.

Keywords: headache, breast cancer, bone metastases

Introduction

Mammary carcinoma is the most frequently neoplasia of the women^[1]. Among mammary cancer metastases, 30%-40% are bone metastases^[2] and appear as zones of osteolysis.

Case presentation

M.E., a 54-year-old woman, came with a recurrent, uninvestigated headache. The headache started at the age of 40, was situated frontoparietotemporally, had the characteristics of a throbbing ache and a medium intensity (5th scale of pain). It repeated almost daily and it didn't cease at the non-steroidal anti-inflammatory drugs.

Excluding a painful sensibility at the scalp's pression, the clinical exam was normal, and so were her antecedents and the investigation of some usually hematological and

biochemical parameters. There were electrocardiographically identified a subendocardial ischemia, through the thyroid echography was detected a polinodular goiter and the cervical spine radiography showed an intervertebral C5-C6 degeneration with osteophytosis.

The abdominal echography and the chest X-ray were normal.

The one that determined the extending of the investigations was the cranial X-ray. It revealed the existence of some small, round, bone resorption areas, frontoparietotemporally situated. (Figure 1 and Figure 2).

The first cranial radiological exam was deceivable because the osteolysis zones could be produced by many diseases, from which those associated with the cephalalgia could be multiple myeloma, osteomyelitis, bone Paget disease, primary

tumors or bone metastases. Considering these possible diagnoses, the patient was reinvestigated, the subsequently lab exams made: alkaline phosphatase, lactate, immunogram, serum ionogram, TSH, serum protein electrophoresis also being normal.

The mammographic exam highlighted, in the upper external quadrant of the left breast, an opaque, 1 cm nodule with a spiculated aspect, including polymorphe microcalcification. The mammography was included in 4c BIRADS class (Figure 3 and Figure 4).

The tumoral markers studied with this opportunity presented normal values- CEA 1.58 µg/L, CA 15-3 =12.7 U/ml, as well as the gynecological exam and the Babes-Papanicolau cytology.

The patient was guided to an oncology department and preoperative cranial computer tomography

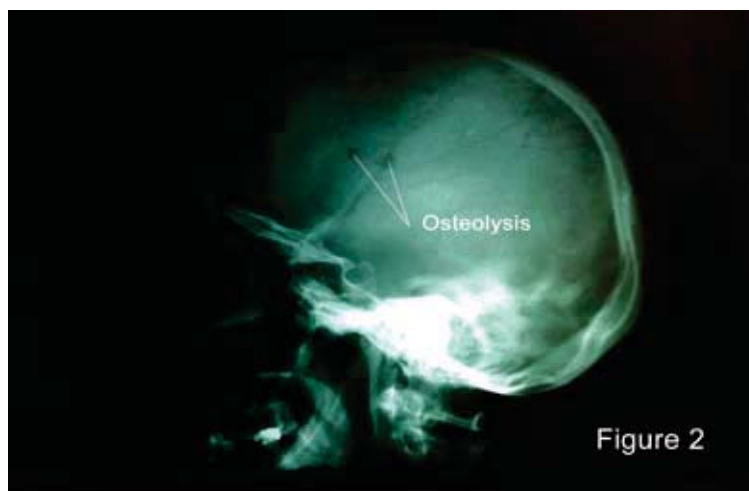


Figure 1 and Figure 2. Cranial radiography - face and profile. Areas of bone resorption frontoparietotemporally. Clinical case. M.E., 54-year-old; personal collection

exam was performed, which showed: "without any cranial bone or cerebral diseases"!

It was referred to surgery and it was performed a sectorectomy with axillary lymphadenectomy. The tumor had a 1 cm diameter and the perioperative histopathological exam confirmed the diagnosis of invasive intraductal carcinoma (Figure 5, Figure 6, Figure 7 and Figure 8).

In none of the 13 histopathological examined nodes were identified metastases.

The carcinoma was classified in stage I (pT1b, pN0, M0). The patient's medical recovery after surgery was complete and now she receives the citostatic treatment.

Discutions

The secondary cephalalgia recognizes a multitude of causes: cranial neuralgias, cervical or cerebral vessels diseases, disorder of homeostasis, ears, nose, sinuses, teeth and oropharynx diseases, intracranial primary tumors, brain or skull metastases, psychiatric diseases, chronic intoxications etc^[3]. Some of these circumstances were excluded in a primary stage of diagnosis by anamnesis, clinical and paraclinical exams.

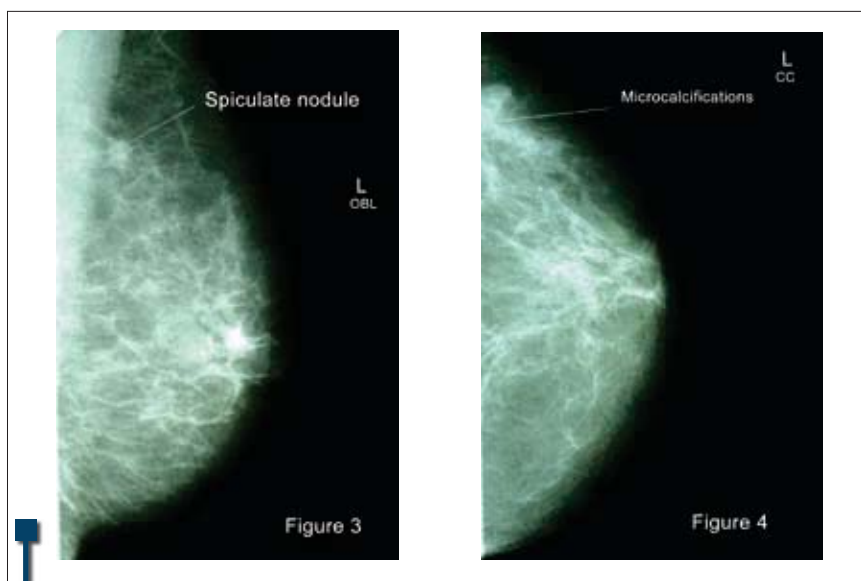


Figure 3 and Figure 4. Left breast mammography. Spiculate nodule visible in an oblique incidence and microcalcification zone visible in a cranial-caudal incidence. Clinical case. M.E., 54-year-old; personal collection

The cranial osteolysis zones were wrongly interpreted as being secondary bone determinations so there were excluded hepatic, gastrointestinal, bronchic, thyroidian, renal or bladder cancer.

In our case, the one that oriented the diagnosis was the mammograph-

ic exam. The diagnosis of mammary carcinoma was fortuitously discovered and the mammography was the key element.

Comparing the two radiological investigations, the simple cranial radiography and the cranial computer tomography, the first describing areas

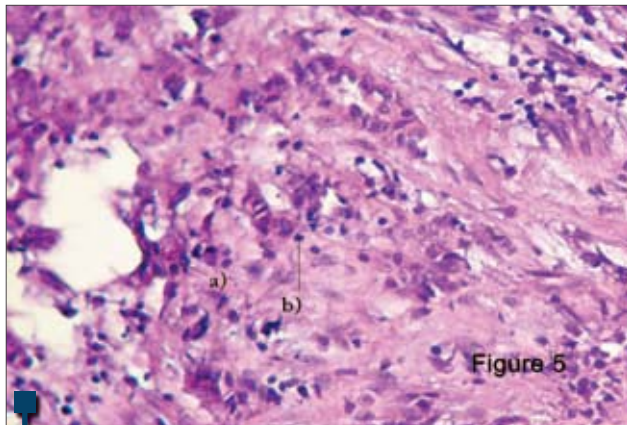


Figure 5. Histopathological exam: a) cancer cells; b) peritumoral lymphocitary inflammatory infiltration. Hematoxylin-eosin stain; 20x enlargement. Clinical case. M.E., 54-year-old; personal collection

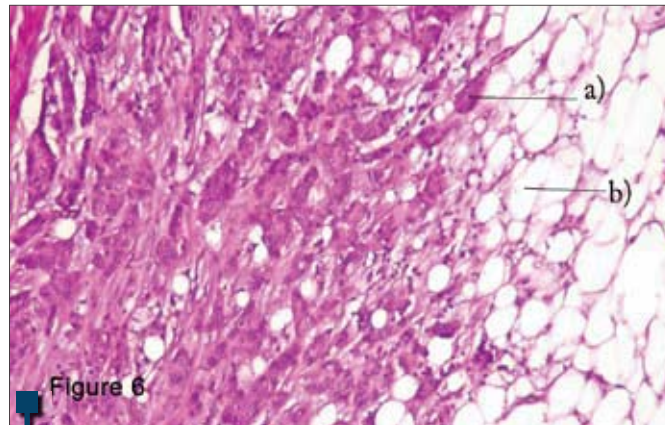


Figure 6. Histopathological exam: a) cancer cells; invasion in b) the adipose tissue; Hematoxylin-eosin stain; 10x enlargement. Clinical case. M.E., 54-year-old; personal collection

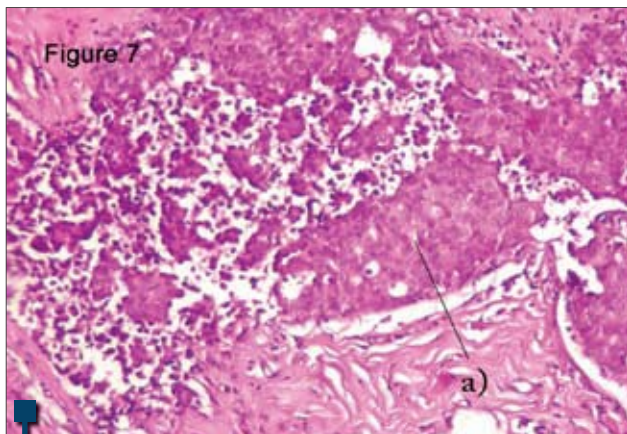


Figure 7. Histopathological exam: a) solid areas of tumoral cells. Hematoxylin-eosin stain; 10x enlargement. Clinical case. M.E., 54-year-old; personal collection

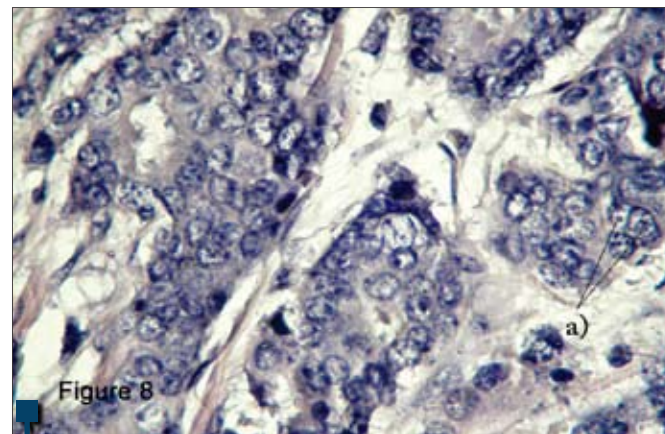


Figure 8. Histopathological exam: a) Nuclear and cellular pleomorphism of the cancer cells. Van Gieson stain; 40x enlargement. Clinical case. M.E., 54-year-old; personal collection

of osteolysis and the second - not, in a first stage can be affirmed that the simple radiography seems to be the correct one, the zones of bone destructions appearing in the front incidence as well as in the profile incidence, which would have never happened in case of artifacts. At the computer tomography exam, because of the fact that the skull sections are being made at a distance of 1 cm between them,

and the osteolysis zones were small and few, they may not appear.

Conclusions

This article showed the necessity of a breast cancer screening program in our country.

Our patient had a mammary cancer classified as a stage I. The cause of her cranian osteolysis couldn't be established. The neoplastic nature

seems to be unlikely and the headache persists. The patient is going to be submitted to a bone scintigraphy a year after the end of the cytostatic treatment. ■

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