

Pseudoxanthoma Elasticum in the Differential Diagnosis of Axillary Calcifications on Mammography[☆]

Seudoxantoma elástico en el diagnóstico diferencial de las calcificaciones axilares en la mamografía

To the Editor:

We present the case of a 52-year-old woman with a family history of breast cancer (mother) who came to the hospital for her annual mammography screening. Microcalcifications with a linear distribution following the skin folds were observed, predominantly in the upper outer quadrants of the breasts and in both axillary regions (Fig. 1).

She was referred to the dermatology department for the evaluation of skin changes, which the patient described as having been present for many years. Physical examination revealed conspicuous folds of redundant skin on the neck and in both axillas and groins, with yellow papules on the skin surface giving a "plucked chicken skin" appearance (Fig. 2, A and B). Breast palpation revealed small, superficial, stony-hard nodules, particularly in the upper outer quadrants.

Incisional skin biopsy was performed, attempting to include these nodules. Histology showed fragmentation and calcification of the elastic fibers in the middle and deep thirds of the dermis; these fibers stained blue with hematoxylin-eosin stain due to their high calcium content, and stained a brownish color with von Kossa stain (Fig. 3, A and B).

A diagnosis of pseudoxanthoma elasticum (PXE) was confirmed on the basis of these findings.

On consultation with the ophthalmology, cardiology, and gastroenterology departments, angioid striae were detected in both eyes, with slight edema in the juxtafoveal area of the macula, and mitral valve prolapse; there were no associated digestive tract changes.

PXE is a hereditary connective tissue disease characterized by variable skin, ocular, and cardiovascular manifestations. The inheritance pattern can be autosomal dominant or recessive, although its incidence is twice as high in women as in men. The locus maps to chromosome 16p13.11.2.^{1,2}

The typical skin manifestations consist of the appearance of yellowish macules in the axillas, on the lateral surfaces of the neck, and in the groin. These macules progress to papules that can coalesce to form large plaques and, with the passage of time, the affected skin folds become more lax and more conspicuous. Clinically, the relevant differential diagnosis of these lesions includes xanthoma planum, typically associated with dyslipidemia, actinic elastosis, and the skin lesions observed in patients taking D-penicillamine.³

The most characteristic histological change in the affected organs is the presence of degenerating elastic fibers (fragmentation in the superficial and mid dermis) that become calcified; the absence of such fibers should make us question the diagnosis. The changes in the elastic fibers can be observed after hematoxylin-eosin staining, although von Kossa stain can be useful to better reveal the calcium (Fig. 3B) and Verhoeff-Van Gieson stain for the elastic fibers.⁴

It is therefore not uncommon to observe images with the density of calcium on plain x-rays or mammography in these patients; these images may have a linear distribution when they are produced by calcification of the elastic fibers in blood vessel walls. There may also be microcalcifications in the breasts and axillas due to calcification of the elastic

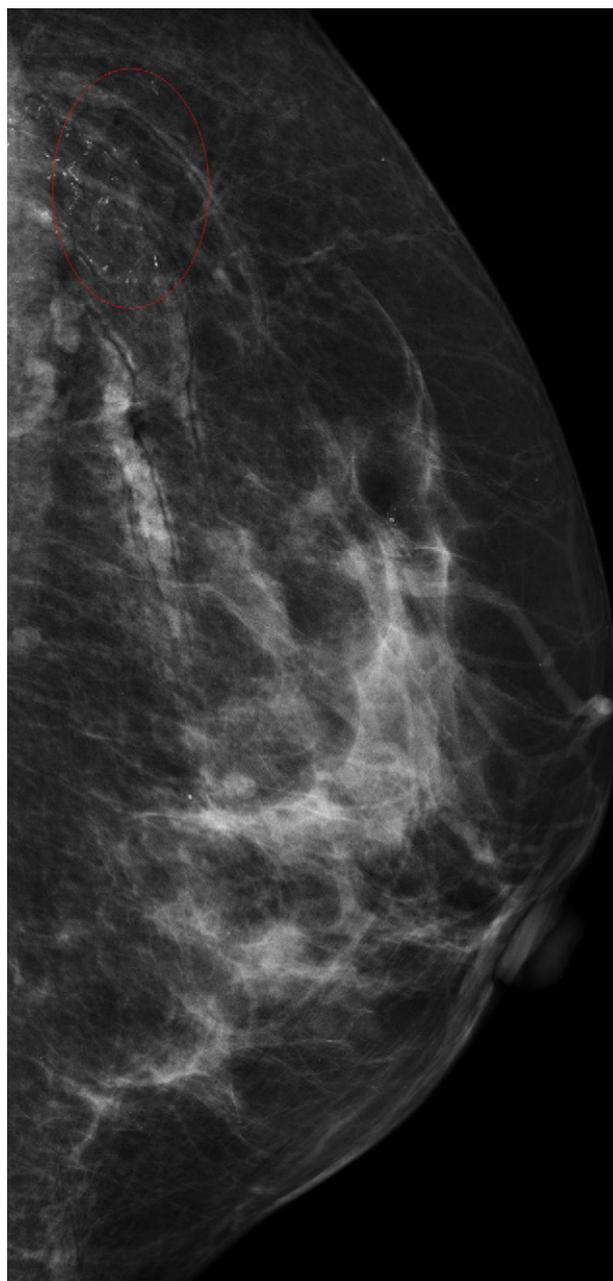


Figure 1 Mammography of the left breast.

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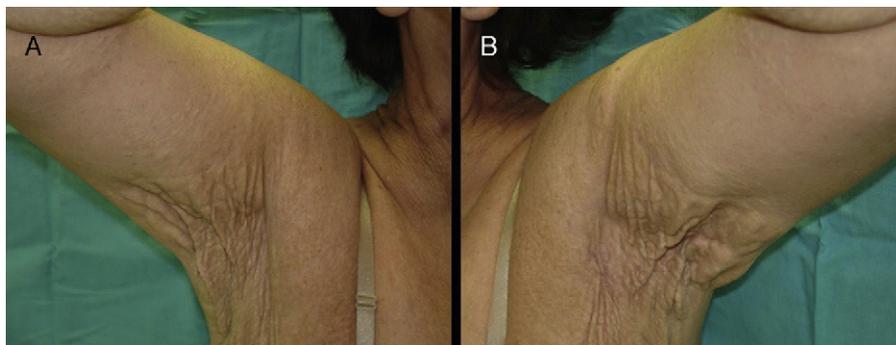


Figure 2 A, Redundant skin folds in the right axilla. B, Redundant skin folds in the left axilla.

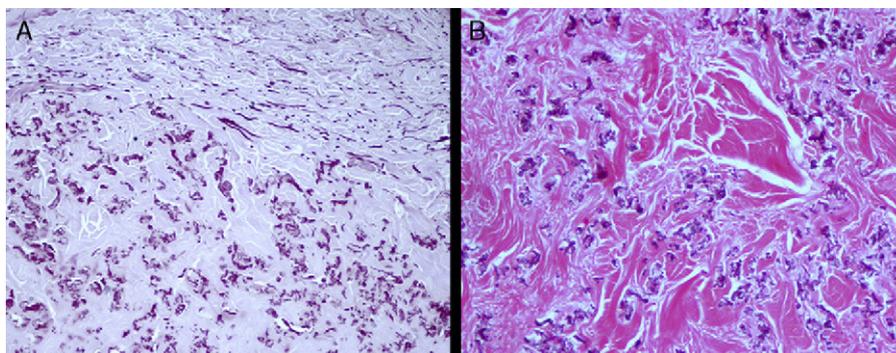


Figure 3 A, Orcein stain, original magnification $\times 100$. B, von Kossa stain, original magnification $\times 200$.

fibers of the dermis,³ and it has even been suggested that these microcalcifications in the breast could be the result of calcification of the muscle fascia and of the interlobar septa of the gland.⁵

Microcalcifications on mammography have been reported in numerous diseases, such as Albright osteodystrophy, chronic folliculitis, and osteoma cutis, and in a wide variety of metabolic and endocrine disorders, such as hyperparathyroidism and hypervitaminosis D. The differential diagnosis should also include deposits of metallic substances on the skin due to the use of deodorants and other creams, as these can simulate intracutaneous microcalcifications.⁵

According to the study by Bercovitch et al.,⁵ breast microcalcifications may be detected in more than half of women with PXE. In the majority of cases these calcifications are isolated, although they have been reported to form groups in some patients,⁶ creating calcium-containing masses that would explain the presence of palpable nodules in both axillas, as occurred in our patient. The combination of breast microcalcifications and vascular calcifications is highly characteristic in these patients, and although it is not rare to detect either of these in the normal population, their combined presence should make us look in detail at the skin for the possible presence of changes suggestive of PXE. It has been reported that calcifications affecting vascular structures that contain elastic tissue can be observed on plain radiographs in up to a third of patients⁵ and calcification of the coronary arteries can give rise to symptoms that simulate those of arteriosclerosis.

In summary, although any calcification observed on mammography should be an alarm signal, it is important

to know the frequency of association of mammographic microcalcifications with PXE and to take this into account in the differential diagnosis of breast cancer.^{7,8}

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Neutrophilic Dermatitis on Postmastectomy Lymphedema[☆]

Dermatitis neutrofilica sobre área de linfedema posmastectomía

To the Editor:

Classic or idiopathic Sweet syndrome is a neutrophilic skin disorder characterized by the association of cutaneous manifestations and systemic symptoms. The skin lesions tend to occur on the face, neck, chest, and arms, and present as painful papules, nodules, or erythematous plaques. Systemic symptoms, such as general malaise, joint pain, and neutrophilic leukocytosis, may appear days earlier or at the same time as the dermatitis. Classic or idiopathic Sweet syndrome has been linked to digestive and upper airway infections, inflammatory bowel disease, and pregnancy. More rarely, it is induced by drugs (most often granulocyte-colony stimulating factor) or associated with a malignant disease (most commonly hematologic malignancies).¹ The atypical variant that arises on lymphedema is considered to be a less severe form.

Our patient was a 60-year-old woman who had been diagnosed 6 years previously with invasive ductal carcinoma of the right breast. She underwent conservative surgery with axillary dissection and received radiation therapy and chemotherapy as adjuvant treatment. At the time of consultation, the patient was receiving treatment with capecitabine for liver metastases. Two days earlier, she had developed multiple erythematous maculopapular lesions on the inner aspect of the right upper arm and forearm; the entire arm was edematous and the lesions were very painful to the touch (Fig. 1A). Some days before the onset of the cutaneous symptoms, the patient had experienced general malaise, a sensation of poor temperature regulation, and shivers. The only blood test results of interest were elevated C-reactive protein levels (99.6 mg/L), and no abnormalities were found in the complete blood count (leukocytes, 7590/mm³ [neutrophils, 69.9%]). A skin biopsy revealed a dense, neutrophilic inflammatory infiltrate in the dermis, which was predominantly perivascular and interstitial; the epidermis was normal (Fig. 2). After treatment with amoxicillin-clavulanic acid was initiated, the skin lesions resolved completely in less than a week (Fig. 1B).

Neutrophilic dermatitis on the site of postmastectomy lymphedema is considered to be an atypical or localized

variant of classic or idiopathic Sweet syndrome and only 12 cases have been reported to date (Table 1). The disorder has been reported in women aged between 39 and 75 years who have undergone surgery for breast cancer, axillary dissection, and other adjuvant treatments (radiation therapy, hormone therapy, and chemotherapy), and who have developed lymphedema in the ipsilateral arm as a result of those treatments. The interval between breast surgery and appearance of the Sweet skin lesions ranges from a few months to a number of years. Clinically, the disease manifests as multiple painful erythematous papules, which may coalesce to form plaques. The lesions appear on the edematous area, which in most cases comprises the upper arm, forearm, and dorsum of the hand. Less often, the lesions take the form of vesicles or blisters; hemorrhagic blisters or pustules have not been reported. The condition has not been linked to local relapse or dis-

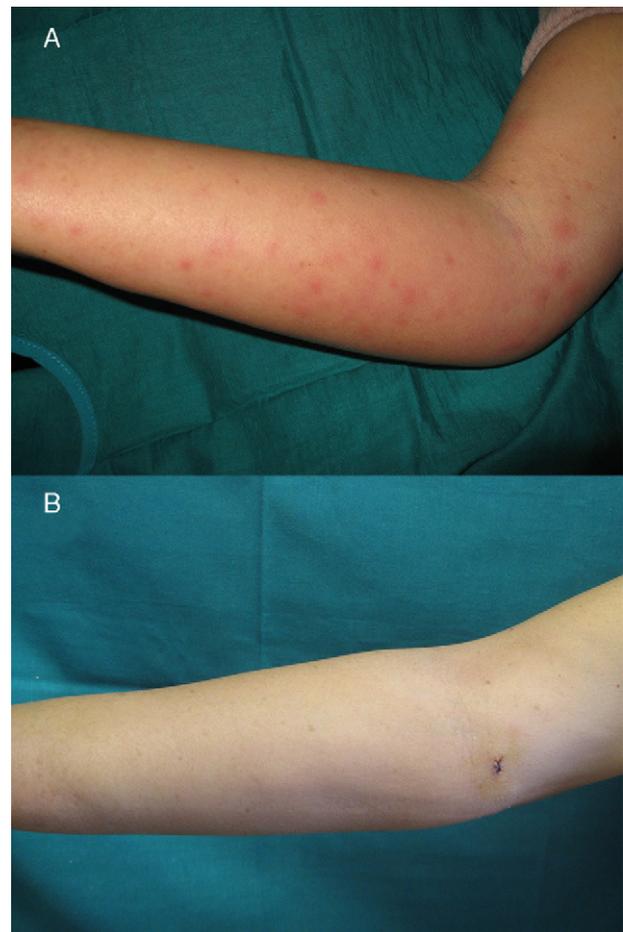


Figure 1 A) Lymphedema and erythematous maculopapular lesions on the inner aspect of the right arm. B) Right arm free of lesions a week after start of treatment.

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