Revista de Ciencias Médicas y de la Vida

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Imágenes Médicas

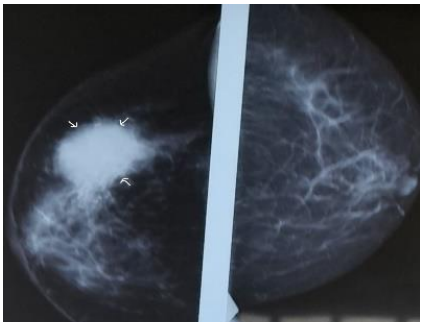
Breast carcinoma in an obese patient with metabolic síndrome

Carcinoma de mama en paciente obesa con síndrome metabólico

Carcinome du sein chez une patiente obèse avec syndrome métabolique

Authors: Yudelquis Betancourt Loyola,[1] Yurielas Betancourt Loyola[2]

[1]Doctora en Medicina. Especialista en Imagenología. Chuka Referral Hospital. Tharaka Nithi County. Kenya. Correo electrónico: yudybetancourt7vero@gmail.com Código Orcid: https://orcid.org/0000-0001-6243-8276
2Doctora en Medicina. Especialista en Medicina General Integral. Especialista en Endocrinología. Milton Cato Memorial Hospital. Kingstown. St. Vicent and Grenadines. Correo electrónico: yurielabetancourtloyola@gmail.com Código Orcid: https://orcid.org/0000-0003-2952-2534



Digital Mammography - X-ray (craniocaudal -magnified view) of the patient

ABSTRACT

Breast cancer is the most common type of cancer and the most common cause of death worldwide, arising in the lining cells of the ducts (85%) or in the lobes (15%) of the breast glandular tissue. There are two main types: Ductal carcinoma in situ (DCIS), which originates in the mammary ducts, and invasive carcinoma; other types, such as phyllodes tumors and angiosarcoma, are less common. Breast cancer most commonly presents as a painless, stony, palpable mass, thickening of the breast, changes in the skin and appearance of the nipple-areola, and abnormal discharge from the nipple. Obesity is an important risk factor for breast cancer; it has been shown that an increase of 5 units in BMI is associated with an increase in the risk of breast cancer by 12%. Obese women in menopause have a higher risk compared to women of normal weight. The breast ultrasound performed on the patient with a 7.5 MHZ linear transducer was positive, and a hypoechogenic mass with irregular contour was observed in the right breast. Unilateral radical mastectomy was performed and is being treated by oncology. The images presented correspond to ultrasounds and digital mammography with craniocaudal (CC) and mediolateral oblique (MLO) views.

***Autor para correspondencia**: Yudelquis Betancourt Loyola. Correo electrónico: yudybetancourt7vero@gmail.com

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Keywords: breast carcinoma, hypoechoic solid mass, obesity, metabolic syndrome

RESUMEN

El cáncer de mama es el tipo de cáncer más frecuente y la causa más común de muerte a nivel mundial, surge en las células de revestimiento de los conductos (85%) o en los lóbulos (15%) del tejido glandular mamario. Existen dos tipos principales: El carcinoma ductal in situ (DCIS) que se origina en los conductos mamarios y el carcinoma invasivo, otros tipos como los tumores filoides y el angiosarcoma son menos comunes. El cáncer de mama se presenta con mayor frecuencia como una masa indolora, pétrea, palpable, engrosamiento de la mama, cambios en la piel y en la apariencia del pezón-areola y secreción anormal del pezón. La obesidad constituye un factor de riesgo importante en el cáncer de mama, se ha demostrado que un aumento de 5 unidades en el IMC se asocia con un aumento del riesgo de cáncer de mama en un 12%. Las mujeres con obesidad en menopausia tienen un riesgo más elevado en comparación con mujeres de peso normal. La ecografía de mamas realizada a la paciente con transductor lineal de 7.5 MHZ fue positivo, observándose masa hipoecogénica de contorno irregular en la mama derecha. La mastectomía radical unilateral fue realizada y se encuentra en tratamiento por oncología. Las imágenes que se presentan corresponden a ecografías y mamografía digital con vista craneocaudal (CC) y oblicua medio-lateral (MLO).

***Palabras clave**: carcinoma de mama, masa solida hipoecogénica, obesidad, síndrome metabólico*

RÉSUMÉ

Le cancer du sein est le type de cancer le plus répandu et la cause de décès la plus fréquente dans le monde. Il apparaît dans les cellules qui tapissent les conduits (85 %) ou dans les lobes (15 %) du tissu glandulaire du sein. Il existe deux types principaux: le carcinome canalaire in situ (CCIS) qui prend son origine dans les canaux mammaires et le carcinome invasif, d'autres types tels que les tumeurs phyllodes et les angiosarcomes sont moins courants. Le cancer du sein se présente le plus souvent sous la forme d'une masse indolore, pierreuse et palpable, d'un épaississement du sein, de modifications de la peau et de l'apparence de l'aréole du mamelon et d'un écoulement anormal du mamelon. L'obésité est un facteur de risque important du cancer du sein; il a été démontré qu'une augmentation de 5 unités de l'IMC est associée à une augmentation du risque de cancer du sein de 12 %. Les femmes obèses ménopausées courent un risque plus élevé que les femmes de poids normal. L'échographie mammaire réalisée sur la patiente avec un transducteur linéaire de 7,5 MHZ était positive et une masse hypoéchogène au contour irrégulier a été observée au niveau du sein droit. Une mastectomie radicale unilatérale a été réalisée et est traitée en oncologie. Les images présentées correspondent à des échographies et mammographies numériques avec vues craniocaudale (CC) et oblique médiolatérale (MLO).

***Mots clés**: carcinome du sein, masse solide hypoéchogène, obésité, syndrome métabolique.*

*__Autor para correspondencia__: Yudelquis Betancourt Loyola. Correo electrónico: yudybetancourt7vero@gmail.com

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IMAGE EXHIBITION

Below are typical images of a 56-year-old female patient, postmenopausal, obese with a body mass index (BMI) of 44.0, grade-3 obesity, with an abdominal circumference greater than 90cm, high levels of TG triglycerides: 300 mg/dl, low-density lipoproteins (LDL): 500 mg/dl, low levels of high-density lipoproteins (HDL): 30 mg/dl, hyperinsulinemia with fasting glucose of 200 mg/dl, type-2 diabetes mellitus and figures elevated blood pressure of 150/100 associated with metabolic syndrome, under medical treatment and follow-up by endocrinology. She began to experience pain and itching in the right breast, sinking of the nipple, with edema and changes in skin color. She was treated at the Tharaka County referral hospital, Nithi-Chuka-Town, Kenya, on 02/02/2023. A breast ultrasound was performed with a 7.5MHZ linear transducer, observing a solid hypoechoic mass with irregular and speculated edges, with posterior acoustic shadowing, in the upper quadrant at 12 o'clock, showing central vascularization on Doppler ultrasound. Digital mammography is recommended.

Digital X-ray mammography of both sides with craniocaudal (CC) and mediolateral-oblique (MLO) view confirms solid, hypoechoic mass in the upper quadrant of the right breast at 12 o'clock, 5-6 cm in diameter, irregular and speculated border with nipple retraction and distortion of the architecture of the breast. A core needle biopsy (CNB) was performed. The biopsy taken from the tumor showed type-B tumor cells with large and robust nuclei, extensive cytoplasm, and nuclear pleomorphism, confirming the diagnosis of breast cancer by biopsy. Functional and enzymatic laboratory tests were performed for tumor markers such as carbohydrate antigen 15.3 (CA-15-3) of 800 U/ml (positive), erythrocyte sedimentation rate 415 mm/, and complete blood count with hemoglobin 12g/dl (normal).

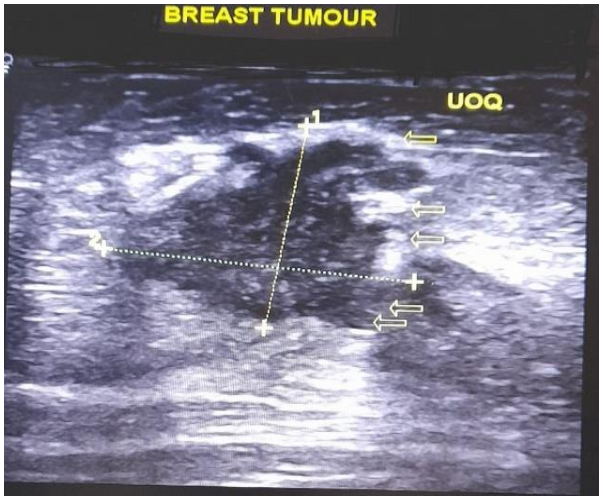

Figure 1. Breast ultrasound - 7.5MHZ linear transducer

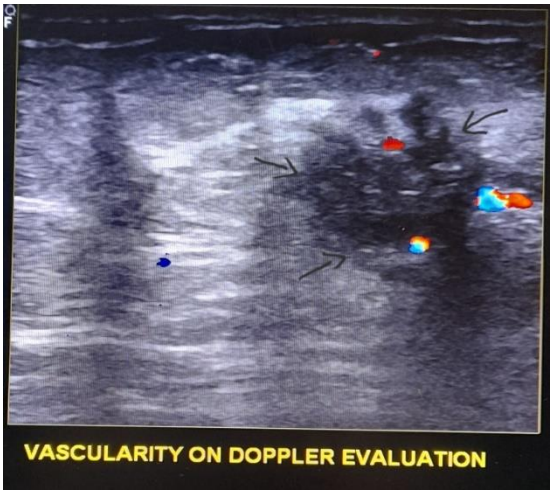

Figure 2. Doppler ultrasound with arterial flow

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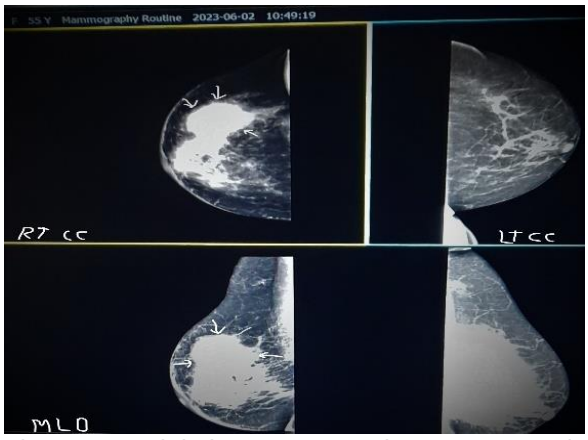

Figure 3. Digital Mammography -X-ray CC/MLO Views

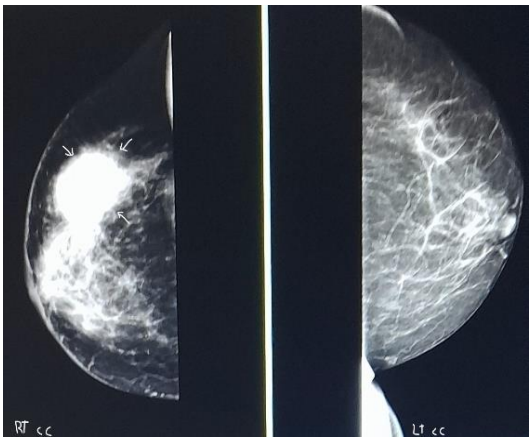

Figure 4. Magnified craniocaudal (CC) view

Figures 1 and 2 show images of breast ultrasound and color Doppler, transverse, and sagittal sections. A solid, hypoechoic mass with irregular contours with central vascularization is observed in Doppler ultrasound, measuring approximately 5-6cm in diameter. Figures 3 and 4 show Digital Mammography studies of craniocaudal (CC), mediolateral-oblique (MLO), and magnified craniocaudal views of both breasts, confirming the survey of ultrasounds performed, revealing the right breast with a hyperdense mass with irregular and speculated contours causing retraction of the nipple and surrounding breast tissue, occupying the upper right quadrant, at 12 o'clock. The left breast, craniocaudal view, mediolateral-oblique, and magnified craniocaudal with little breast tissue in the retro areolar region, without nodular lesion and normal vascularization.

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No funding was received for the development of this study.

CONFLICTS OF INTEREST

No conflicts of interest declared

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To the editorial committee of the Journal of Medical and Life Sciences

Article title: **BREAST CARCINOMA IN AN OBESE PATIENT WITH METABOLIC SYNDROME**

Name of the author(s): Yudelquis Betancourt Loyola, Yurielas Betancourt Loyola

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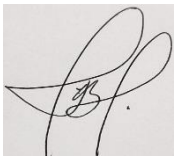

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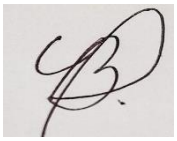

Yurielas Betancourt Loyola