BREAST ATYPICAL BENIGN LESIONS

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ABSTRACT
The aim of the present work was the difficulty present when some breast lesions imaging give little expected histological results either for its frequency as well its unusual aspect. Therefore, five cases with patients Classified BIRADS 4 A and B, who underwent mammography, ultrasound, and core biopsy were included, the histopathologic image was also included, most of the lesions were non-proliferating, only sclerosing adenosis was considered a proliferating lesion, thereby requiring strict follow-up, these lesions have been related to a twice higher risk in the population presenting breast cancer.

RESUMEN
El motivo del presente trabajo fue la dificultad que se nos presenta cuando la imagen de algunas lesiones de la mama nos dan resultados histológicos poco esperados sea por su frecuencia así como por su aspecto inusual. Incluimos por tanto cinco casos de pacientes con Clasificación de BIRADS 4 A y B, en las que se realizó mamografía, ecografía y biopsia core, adjuntamos también la imagen histopatológica, la mayoría de ellas lesiones no proliferativas, únicamente la adenosis esclerosante fue catalogada como lesión proliferativa y por ende requiere un estricto seguimiento, estas lesiones se han relacionado con un riesgo dos veces mayor que la población general de presentar cáncer de mama.

INTRODUCTION
Benign breast disorders are a heterogeneous group of lesions which clinically and radiographically include all the breast lesions spectrum. (1.8)

The risk of breast cancer following a benign lesion is associated to the histological category in which it classifies. (2.11)

Biopsy continues being the best way.

BIRADS®

- CATEGORY 4: Doubtful result of malignity. It requires histopathologic confirmation. It has 3 degrees according to its malignity percentage which goes from 3 through 94% (5)
• CATEGORY 4 A: Low suspicion of malignity (3-49%)
  – Little circumscribed masses with ultrasound suggesting fibroadenoma, complex cyst, or abscess.

• CATEGORY 4B: Mid suspicion of malignity (50 to 89%)
  – Little circumscribed masses with partially distinguishable margins which result in fibroadenoma, fatty necrosis, or papilloma.

• CATEGORY 4C: Moderate suspicion of malignity (90 – 94%)
  – Badly defined, irregular, solid masses and newly appearing pleomorphic calcifications.

CASE No. 1
61-years old patient, menopause at 40 years, 4 children, breastfeeding: yes, no family background of Ca.

Fig. 1 Right hand side CC mammography projection. Rounded formations, hypodense center, regular, hyperdense, probably calcified at the periphery.

Fig. 2 Mammography enlargement in right side CC projection. Rounded formations, hypodense center, regular, hyperdense, probably calcified at the periphery.

Fig. 3 Ultrasound: Correlation between mammographic lesions and ultrasound: rounded formations conglomerate with signs of peripheral calcifications, acoustic shade.

Fig. 4 Doppler color and spectral: Discrete peripheral vascularization with intermediate resistance.

Radiologic Diagnostic Case No. 1: BIRADS IV A

Fig. 5 Histopathologic cysts surrounded by macrophages and gigantic cells with vacuoles in the interior, cystic Pneumatosis.

Cystic Pneumatosis
It is a rare disease characterized by the presence of numerous cysts, filled with gas at the submucosa and/or subserosa. It occurs more often between the age of 30 and 50 years. In 15% of cases they present in a primary form but it uses to be secondary to several pathologies such as collagen, infectious, oncologic, immune, inflammatory, etc. diseases, and sometimes traumatism. (3)
CASE No. 2
46-year old patient, surgical menopause at 40 years, children: 4, breastfeeding: yes, with no Ca. Family background.

Fig. 6 Mammography, MLO projection of left Breast at retroareolar region, linear asymmetry.

Fig. 7 Enlargement of Mammography projection, MLO of left Breast at retroareolar region, linear asymmetry.

Fig. 8 MLO Compression and Focalization: Define oval image with dense, moderately defined borders.

Fig 9 Ultrasound: Lesion of impedance similar to the surrounding tissue, the use of harmonics improves its visualization, oval, with discrete anechoic area.

Fig 10 Doppler color Ultrasound: Hypovascularization.

Radiologic Diagnostic Case No. 2: BIRADS IV A

Fig. 11 Histopathologic: Rounded tubules with scarce edematous stroma, occasional mitosis, Tubular Adenoma.

Tubular Adenoma
It is the pure adenoma, appearing clinically as a well defined nodule which develops in young women, without skin or nipple secondary alterations.

The majority of them are more than 4cm. Without association to ACOS or pregnancy. No recurrences or breast Ca. increase have been recorded. (1.4)

CASE No. 3
48-year patient, menopause at 47 years, children: 3, breastfeeding: yes, without Ca. family background.

Fig. 12 MLO Mammography projection, Fig.13 CC projection: Breast with diffuse increase of density and focal area of poor mammographic identification.
Radiologic Diagnostic Case No.3: BIRADS IV A

Fig. 14 Ultrasound: Conglomerate of nodular adjacent formations, without acoustic shade.

Fig. 15 Doppler color Ultrasound with discrete vascularization.

Fig. 16 Spectral Doppler Ultrasound, high resistance.

Fig. 17 Histopathologic: Inflammatory background with lymphoplasmocitic cells, no malignity seen, Granulomatous Mastitis.

**Granulomatous Mastitis**

Idiopathic lobular Chronic (MGCLI). (Kessler and Wolloch, 1972) Granulomatous reaction which was not associated to any type of infection, trauma, or foreign body. Higher incidence in ACOS women. They suggested an autoimmune origin because of their similitude to thyroiditis and granulomatous orchitis. (6)

**CASE No. 4**

57-year old patient, menopause at 50 years, children: 2, breastfeeding: yes, without Ca. family background.

Fig. 18 Ultrasound. Retroareolar heterogeneous, bi-lobulated mass with intense acoustic reinforcement. Posterior regular thickened borders.

Fig. 19 Ultrasound: Discrete vascularization, medial prevalent vessel.

Fig. 20 Histopathologic: Prevalence of plasmatic cells infiltrate with reactive changes, plasmatic cells Mastitis.

**Plasmatic Cells Mastitis**

Firstly described by Adair in 1933. They are chronic inflammatory processes which compromise in higher degree the breast gland stroma degree. Women after long breast feeding period. (7)
CASE No. 5
4-year old patient, still not arrived to menopause, children: 3, breastfeeding: yes, without Ca. family background.

Fig. 21 Mammography in MLO projection: Dense breasts, on right side in MLO, mass is partially defined 11 – 12 hours.

Fig. 22 Enlargement of mammography in MLO projection: disperse tip-shaped microcalcifications, some scarce pleomorphic. Lower and mid density, the majority hyperechoic.

Fig. 23 Doppler Color Ultrasound, Moderately Vascularized.

Fig 24 Spectral Doppler Ultrasound, Mid Higher resistance with discrete diastole.

Radiologic Diagnostic Case No. 5: BIRADS IV B

Fig. 25 Histopathologic: Proliferation of microacinar structures, without atypias.

Sclerosing Adenosis
Pre-menopausal Patients. Proliferative lesion derived from the lobular duct terminal unit. It starts from fibrocystic changes. Evident calcifications on mammography due to luminal secretion accumulation. (4,6)

GENERAL CONCLUSIONS
The BI RADS IV classification has set probable malignity percentages which should be strictly considered by mastologists and surgeons.

While radiological images were category IV A and B, they got less frequent histopathologic results.

No breast cystic neumatosis references are available only in the intestine and colon, they are probably due to oily cysts rupture.

Adenosis had an atypic aspect, strict radiologic follow-up must be followed because of being a proliferative entity.
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