

## MUCINOUS CARCINOMA OF THE BREAST: RARE HISTOLOGICAL ENTITY TO KNOW: ABOUT TWO CASES AND REVIEW OF LITERATURE

Dr. M. Mourabbih<sup>\*1</sup>, Dr. R. Samhari<sup>1</sup>, M. Charkaoui<sup>1</sup>, Pr. M. Ennachit<sup>2</sup>, Pr. Benhassou<sup>2</sup> and Pr. El. Karroumi<sup>3</sup>

<sup>1</sup>Resident, <sup>2</sup>Professor and <sup>3</sup>Chief Doctor

Ibn Rochd Hospital Center, Faculty of Medicine and Pharmacy, Hassan 2 University, Casablanca, Morocco.

**Corresponding Author: Dr. M. Mourabbih**

Resident, Ibn Rochd Hospital Center, Faculty of Medicine and Pharmacy, Hassan 2 University, Casablanca, Morocco.

Article Received on 21/03/2021

Article Revised on 11/04/2021

Article Accepted on 02/05/2021

### INTRODUCTION

Breast cancer is the first cancer in women, more than 800,000 new cases are diagnosed worldwide<sup>[1]</sup>, dominated by invasive ductal cancer. Characterized by the presence of extracellular mucus, and by a more favorable prognosis, mucinous carcinoma accounts for one to seven percent of all invasive carcinomas. Histologically, there are two forms of mucinous carcinoma: the pure form in which there is no ductal component and the mixed form which combines foci of infiltrating ductal carcinoma next to the colloid component.<sup>[2]</sup> In this article, we propose to study two cases of mucinous carcinoma.

### OBSERVATIONS

First case : a 74-year-old patient with no notable pathological history, admitted for treatment of a right breast nodule that has been developing for 3 years. Clinical examination revealed a 3x3cm right QSE nodule, mobile in relation to the 2 planes, without other associated signs, clinically classified T2N0M0. Ultrasound mammography found an oval, well-defined, solido-cystic mass with posterior reinforcement, measuring 47x28mm, classified ACR 4 (figure 1). The tru-cut biopsy revealed a mucinous carcinoma classified as SBR II, with no associated ductal or in situ component. The extension report is without anomaly. Conservative treatment was performed with the final histological result in favor of a pure invasive mucinous carcinoma of 3.5 cm. The IHC study shows 100% labeling for estrogen receptors 30% for progesterone receptors while HER2 is negative. The Ki67 is at 15%. There were four positive lymph nodes out of the 18 sampled.

Chemotherapy has been started, radiation therapy and hormone therapy are planned. Second case: 73-year-old patient, followed for hypertension, admitted for management of a nodule in the left breast that has been evolving for two months. Clinical examination found a nodule of 2x2cm mobile compared to the two planes initially classified T2N0M0, located at the left QSE. The ultrasound mammogram shows a nodule of the left QSE, of irregular contours with rupture of the spans and posterior reinforcement, making 12x20x19mm classified ACR 5 (figure 2). The tru-cut biopsy reveals an invasive mucinous carcinoma, classified as SBR II.

The final histological result of the conservative treatment shows a pure mucinous cancer with 90% estrogen receptors at IHC, 30% progesterone and HER2 is negative. The Ki67 is at 25%. axillary dissection was positive with three lymph nodes positive out of the 15 lymph nodes removed.

### FIGURES



**Figure 1: Ultrasound image of an oval mass, well limited solido-cystic 47x28mm, with posterior reinforcement. ACR 4 classified.**



**Figure 2: Frontal mammography image of a left QSE nodule with irregular shape and contours classified ACR 5.**

## DISCUSSION

Mucinous carcinoma of the breast is a rare entity, the age of onset is generally over 60 years, which is indeed the age range of our two patients. It accounts for seven percent of all malignant breast tumors after the age of 75 and one percent before the age of 35.<sup>[3]</sup> Self-examination is the most frequent mode of disclosure, located mainly at the level of the QSE. The bilateral character is rarely described in the literature, while the multifocalite remains exceptional.<sup>[4]</sup> The average height in the literature varies between 1 and 20 cm.<sup>[5-5]</sup> We found an average height of two and a half centimeters. Palpable lymphadenopathy is more common in mixed mucinous carcinoma.<sup>[2]</sup> Our two patients were N0. The most common mammography translation is that of dense opacity, with finely irregular or regular contours, circumscribed or polybea.<sup>[2-6]</sup> Despite reassuring imagery, the malignancy must always be eliminated in view of the advanced age of the patients.

Macroscopically we find a tumor mass, well limited, crackling on palpation, gelatinous surface, spinning when cut. The consistency is soft, greyish or yellowish gray<sup>[9]</sup> Histologically we find islands of regular epithelial cells with extensive lakes of extracellular mucus, separated by partitions the tumor cells are small with a dark nucleus within which is visible a small nucleolus.<sup>[10]</sup> It is accepted that mucinous cancer has little exposure to lymph node invasion, this risk increases with tumor size and the mixed character of the tumor.<sup>[2-7]</sup>

The relative risk of relapse and death in lymph node involvement is 2.69<sup>[9-7]</sup> As a result, some authors suggest in their studies that lymph node dissection should no longer be systematic in the face of this histological type. However, the sentinel node technique remains useful in detecting patients with lymph node

involvement and adapting adjuvant treatment.<sup>[8]</sup> The axillary dissection of our patients was positive.

The immunohistochemical study of hormone receptors for estrogen and progesterone has often revealed a strong presence, more particularly estrogen (91% of cases).<sup>[2-3]</sup> Hormone receptors are strongly positive in our case.

Therapeutic management is no different from other histological types. It is based on surgery, chemotherapy and radiotherapy. Conservative treatment is recommended for T1, T2. Partial and accelerated irradiation of the breast is currently the most recommended after conservative surgery. Chemotherapy with doxorubicin combined with paclitaxel appears to have a good response in locally advanced forms of colloid carcinoma of the breast. Hormone therapy is indicated whenever hormone receptors are positive.

Positive. Exclusive radiotherapy can be attempted in inoperable forms for local or general reasons.<sup>[2]</sup> A 70% reduction in the risk of locoregional recurrence in patients treated with irradiation regardless of age, tumor characteristics and systemic administration of treatment has been reported. These findings could make it possible to qualify the systematic surgical therapeutic approach adopted in general with regard to colloid carcinoma of the breast. Clinically, there is a complementary effect of radiotherapy and tamoxifen in an adjuvant situation in operated breast cancers.<sup>[2]</sup> The survival of colloid carcinoma is markedly superior to other types of breast cancer, especially in its pure form.<sup>[5-7-9]</sup> Ten-year survival drops from 91% in the pure form to 46% in the mixed form<sup>[2]</sup> The onset of metastases in pure colloid carcinomas is late.<sup>[11]</sup> Lymph node involvement is the main prognostic marker of colloid carcinoma of the breast.<sup>[7-9]</sup>

## CONCLUSION

Mucinous carcinoma is a rare histological entity with a favorable prognosis compared to other histological types. The imagery is most often deceptively reassuring. The distinction between pure or mixed character, lymph node invasion is crucial, because from these characteristics will result the therapeutic attitude and the evaluation of the prognosis.

## CONFLICT OF INTEREST

The authors declare no conflict of interest.

## Sources of funding

This research did not receive any specific grant(s) from funding agencies in the public, commercial, on non-for-profit sectors.

## CONSENT

Written informed consent was obtained from the patient for publication of this research study. A copy of the written consent of each patient is available for review by the Editor-in-Chief of this journal on request.

## REFERENCES

1. Ferlay J, Soerjomataram I, Dikshit R, Eser S, Mathers C, Rebelo M, et al. Cancer incidence and mortality worldwide: Sources, methods and major patterns in GLOBOCAN 2012. *Int J Cancer*, 2014 Sep 13.
2. Chtourou I, Krichen MS, Bahri I, Abbes K, et al. Carcinome colloïde pur du sein: étude anatomoclinique de sept cas. *Cancer/Radiothérapie*, January, 2009; 13(1): 37-41.
3. Komenaka IK, El-Tamer MB, Troxel A, Hamele-Bena D, Joseph KA, Horowitz E. Pure mucinous carcinoma of the breast. *Am J Surg*, 2004; 187: 528–32.
4. Dumitru A, Procop A, Iliesiu A, Tampa M, Mitache L, Costache M, et al. Mucinous breast cancer: a review study of 5 year experience from a hospital-based series of cases. *Maedica (Buchar)*, 2015; 10: 14–8.
5. Ishikawa T, Hamaguchi Y, Ichikawa Y, Shimura M, Kawano N, Nakatani Y, et al. Locally advanced mucinous carcinoma of the breast with sudden growth acceleration: a case report. *Clin Oncol*, 2002; 32: 64–7.
6. Matsuda M, Yoshimoto M, Iwase T, Takahashi K, et al. Mammographic and clinicopathological features of mucinous carcinoma of the breast. *Breast Cancer*, Jan, 2000; 7(1): 65-70.
7. Kouach J, Elhassani M, Elfazzazzi H, Hafidi R, et al. Carcinome mucineux multifocal du sein. *Imagerie de la Femme*. Février, 2009; 19(1): 59-62.
8. Stita W, Trabelsi A, Jaidene L, Ben abdelkerim S, et al. Le carcinome mucineux pur du sein à propos de 18 cas. *Imagerie de la Femme*, Septembre, 2008; 18(3): 187-190.
9. Haddad H, Benchakroun N, Acharki A, Jouhadi H, et al. Le carcinome colloïde du sein. *Imagerie de la femme*. Juin, 2006; 16(2): 119-23.
10. Giordano SH, Cohen DS, Buzdar AU, Perkins G, Hortobagyi GN. Breast carcinoma in men: a population-based study. *Cancer*, Jul, 1, 2004; 101(1): 51-7.