

Invasive Papillary Carcinoma of the Breast Presenting after Metastatic Mucinous Adenocarcinoma: Report of a Rare Case

Mazaher Ramezani¹, Farhad Kavousi¹, Setareh Afzali², Masoud Sadeghi^{3,*}

¹Molecular Pathology Research Center, Emam Reza Hospital, Kermanshah University of Medical Sciences, Kermanshah, Iran

²Students Research Committee, Kermanshah University of Medical Sciences, Kermanshah, Iran

³Medical Biology Research Center, Kermanshah University of Medical Sciences, Kermanshah, Iran

*Corresponding author: Sadeghi_mbrc@yahoo.com

Abstract Breast cancer constitutes a heterogeneous group of lesions. Invasive papillary carcinoma of the breast is a rare form of breast cancer with less aggressive behavior which may have mucinous differentiation. Histologically papillary projections with fibrovascular core and epithelial proliferation are present. Signet ring morphology and extracellular mucin production can be seen but myoepithelial cells are absent. We reported a case of invasive papillary carcinoma of the breast in a 74-year-old lady without mucin production, which first presentation was a metastasis of unknown origin to the spinal column as adenocarcinoma with mucin production. In conclusion, although invasive papillary carcinoma of the breast is known as a less aggressive tumor, but its presentation may be with metastasis and mucin production, despite of non-mucinous primary tumor.

Keywords: *invasive papillary carcinoma, breast cancer, mucinous adenocarcinoma, metastasis*

Cite This Article: Mazaher Ramezani, Farhad Kavousi, Setareh Afzali, and Masoud Sadeghi, "Invasive Papillary Carcinoma of the Breast Presenting after Metastatic Mucinous Adenocarcinoma: Report of a Rare Case." *American Journal of Medical Sciences and Medicine*, vol. 5, no. 1 (2017): 20-22. doi: 10.12691/ajmsm-5-1-3.

1. Introduction

Breast cancer represents a very diverse group of lesions which constitutes about 20 distinct subtypes. Invasive papillary carcinoma of the breast is a rare form of breast cancer, which constitutes about 0.5 to 2 percent of all diagnosed invasive breast tumors and is mainly seen in older adults than the usual forms of breast cancers in the seventh decade or later [1-8]. Papillary lesions of the breast are characterized by the presence of a fibrovascular core and an epithelial proliferation. Myoepithelial cells are absent in invasive papillary carcinoma [2]. It is known as a tumor with less aggressive behavior by most references [2,4,5,9], but some consider it as an aggressive tumor [6,10]. Mucinous differentiation may be seen in some invasive papillary carcinomas of the breast [9,10]. Herein, we reported a case of invasive papillary carcinoma, which presented by metastatic mucinous adenocarcinoma in the spinal column.

2. Case Report

A 74-year-old housewife was referred to the surgery ward on 10th August, 2016 for the left breast radical

mastectomy with clinical impression of the left breast cancer. She had the left breast mass and cutaneous ulcer. In her past medical history, she had lumbar pain and paresis of limbs culminating in the diagnosis of lumbar mass on 6th February with pathology report of metastatic adenocarcinoma [Figure 1]. The patient had history of total abdominal hysterectomy 20 years ago (without documented pathology report) and was hypertensive since 10-15 years ago. She was diabetic and had anemia since 2-3 years ago, which needed blood transfusion 2 times in recent 2 months (isogroup A). She was a cigarette smoker (20 packs per year). The patient had received chemotherapy after spinal mass surgery (the last time, 16 days before admission) and radiation therapy (the last time, 4 months before admission). Drug history was Losartan, Metformin, and chemotherapeutic agents (unaware of the names of the drugs). In family history, the patient's father had lung cancer. On 13th August the patient underwent left radical mastectomy. Cut sections of breast revealed a hemorrhagic solid cystic mass measuring up to 5cm. Microscopic examination revealed complex papillary structures [Figure 2] with fibrovascular core and frank invasion [Figure 3]. The pathologist reported invasive papillary carcinoma of breast with nuclear grade of 2/3, vascular invasion and tumor necrosis in 30% of surface area. Surgical margins were free of tumor. The patient was in good condition on 15th August and discharged from hospital.

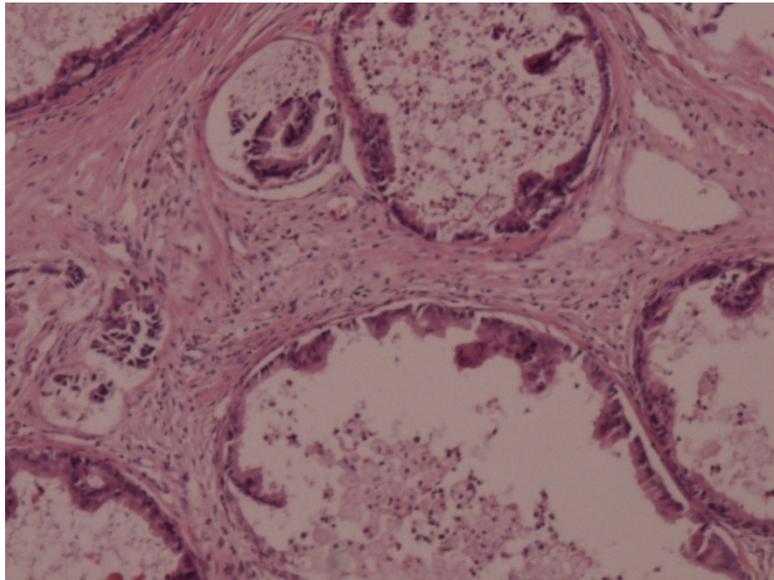


Figure 1. Metastatic adenocarcinoma with mucin production (Hematoxylin & Eosin, x100)

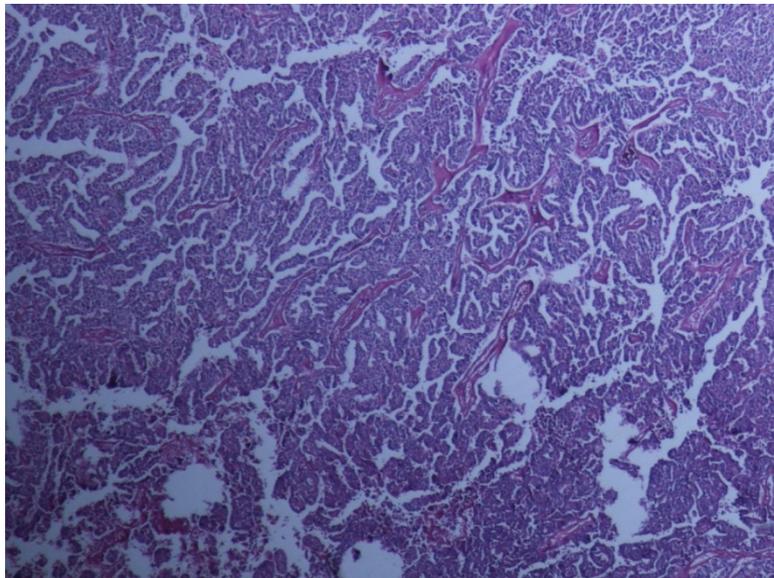


Figure 2. Papillary carcinoma of the breast (Hematoxylin & Eosin, x100)

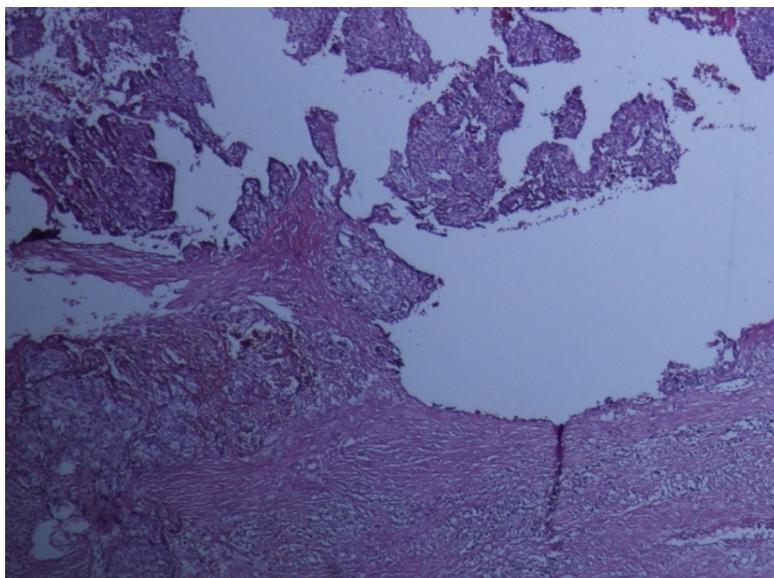


Figure 3. Invasive component in papillary carcinoma (Hematoxylin & Eosin, x100)

3. Discussion

Papillary lesions of the breast have been a manner of challenge for pathologists [2,4,5,11,12,13]. The spectrum consists of benign to malignant neoplasms with papillary features including papilloma, papilloma with atypical ductal hyperplasia, in situ and invasive papillary carcinoma [11]. Papillary carcinoma has well-defined borders and thin finger-like papillary projections which sometimes constitutes solid areas. Tumor cells have eosinophilic cytoplasm, round nuclei with moderate pleomorphism and frequent mitoses. Myoepithelial cells are not present [2]. Invasive papillary carcinoma is mentioned as a low grade malignancy with good prognosis in most references [2,4,5,9], but some argued this [6,12]. This controversy is the result of the lack of a united consensus of nomenclature of papillary lesions [12,14] and the fact that a large proportion of data in the literature about papillary carcinoma are from individual case reports [7]. A short review by Sareman and Rosa reported that papillary carcinomas often display mucinous and neuroendocrine differentiation in that, cells frequently show plasmacytoid or endocrine appearance with eosinophilic, granular cytoplasm and eccentric nuclei. Sometimes the predominant cells have spindle cell morphology with nuclear groove. Signet ring morphology and extracellular mucin production can also be seen [9]. These findings are confirmed by the case report of Kostov et al. [10] who reported a 74-year woman of solid infiltrating papillary carcinoma of the breast with mucinous differentiation. In our presented case mucinous differentiation was not present in the invasive papillary carcinoma at the breast site, but the presentation was metastatic adenocarcinoma with mucin production of unknown origin to the spinal column. Whether invasive papillary carcinoma of the breast without mucinous differentiation can present with metastatic mucinous adenocarcinoma is a matter of debate.

4. Conclusion

Although invasive papillary carcinoma of the breast is known as a less aggressive tumor, but its presentation may

be with metastasis and mucin production, despite of non-mucinous primary tumor.

References

- [1] Elverici E, Barça AN, Türksöy O, Araz L, Yüksel E. Bilateral invasive papillary carcinoma of the breast. *Clin Imaging*. 2007; 31(6): 419-21.
- [2] Eremia IA, Ciobanu M, Tenea T, Comanescu MV, Craitoiu S. Invasive papillary carcinoma: histopathologic and clinical aspects. *Rom J Morphol Embryol*. 2012;53(3 suppl):811-5.
- [3] Gore CR, Panicker N, Karve PP. A cytological and histomorphological case study of an uncommon breast carcinoma: Invasive papillary type. *Indian J Pathol Microbiol*. 2009; 52(3): 411-3
- [4] Terzi A, Uner AH. An unusual case of invasive papillary carcinoma of the breast. *Indian J Pathol Microbiol*. 2012;55(4):543-5.
- [5] Vani D, Geetanjali S, Punja GM, Bharathi M. A case of invasive papillary breast carcinoma: Fierce façade with favorable prognosis. *J Cancer Res Ther*. 2015; 11(4):1029.
- [6] Leena JB, Reshma GK, Safeena A. Invasive (solid) papillary carcinoma of the breast: A report of two cases. *Journal of Clinical and Diagnostic Research*. 2013;7(6):1150-1.
- [7] Pal SK, Lau SK, Kruper L, Nwoye U, Garberoglio C, Gupta RK, et al. Papillary Carcinoma of the Breast: An Overview. *Breast Cancer Res Treat*. 2010; 122(3): 637-45.
- [8] Zheng YZ, Hu X, Shao ZM. Clinicopathological Characteristics and Survival Outcomes in Invasive Papillary Carcinoma of the Breast: A SEER Population-Based Study. *Sci Rep*. 2016; 6: 24037.
- [9] Sareman J, Rosa M. Solid Papillary Carcinoma of the Breast: A Pathologically and Clinically Distinct Breast Tumor. *Arch Pathol Lab Med*. 2012; 136(10): 1308-11.
- [10] Kostov M, Tasic-Dimov D, Milenkovic S, Dimic M, Petrovic L, Mijovic Z. Solid papillary carcinoma with mucinous differentiation. *Vojnosanit Pregl*. 2003; 60(4):497-500.
- [11] Agoff SN, Lawton TJ. Papillary Lesions of the Breast With and Without Atypical Ductal Hyperplasia: Can We Accurately Predict Benign Behavior From Core Needle Biopsy? *Am J Clin Pathol*. 2004;122(3):440-3.
- [12] Ueng SH, Mezzetti T, Tavassoli FA. Papillary Neoplasms of the Breast: A Review. *Arch Pathol Lab Med*. 2009; 133(6):893-907.
- [13] Collins LC, Schnitt SJ. Papillary lesions of the breast: selected diagnostic and management issues. *Histopathology*. 2008; 52(1): 20-9.
- [14] Mulligan AM, O'Malley FP. Papillary lesions of the breast: a review. *Adv Anat Pathol*. 2007; 14(2): 108-19.