



Axillary Solid-papillary carcinoma: A case report on presentation and management

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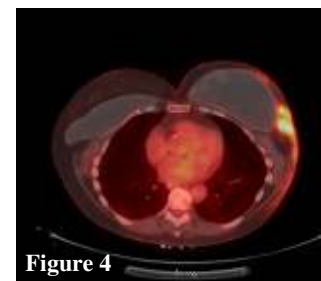
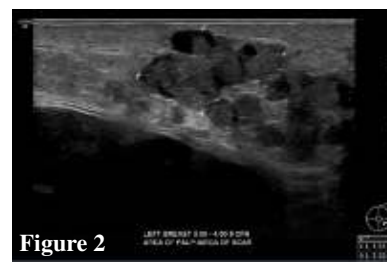


Background/Introduction

- Papillary breast carcinoma is a rare form of breast cancer, comprising of <1% of all breast cancers ¹.
- Solid-papillary carcinoma (SPC) is one of five known subtypes of papillary breast carcinoma ². Dysplastic cells originate from the ductal epithelium with 50% of cases presenting as retroareolar or subareolar masses with bloody nipple discharge ³.
- SPC is more commonly found in post-menopausal women ⁴⁻⁶.
- 90% of SPC lesions present as localized tumors with 8% presenting with locoregional disease and 0.4% distant metastasis ^{7-8 20}. About 95% of the tumors are unilateral ³.
- There are currently no set guidelines for treatment of SPC ^{6 8 9}. Surgical excision is recommended when atypia or invasive features are confirmed. The role of sentinel node biopsy, hormone therapy and radiotherapy are still controversial ^{8 10}.
- There is a dearth of information regarding the utility of chemotherapy in the treatment of SPC.

Case Report

- A 62-year-old post-menopausal female is status post left lumpectomy followed by left skin-sparing mastectomy with sentinel node biopsy and reconstruction for positive margins due to multifocal DCIS. Post mastectomy margins and lymph nodes were negative for disease.
- Two years later, she presented to clinic with a chief complaint of rapidly growing small nodular masses along the left mastectomy scar extending from the reconstructed nipple to the lateral axillary chest wall (Figure 1).
- Excisional biopsy pathology: nodules with proliferation of solid and papillary plasmacytoid cells with amphophilic cytoplasm and focal pink cytoplasmic granules. CK-5-, ER/PR+, HER 2-, (Ki67 18%), p63-. Findings compatible with invasive solid-papillary carcinoma, grade 1.
- Ultrasound of the palpable masses showed diffuse thickening with skin edema (Figure 2). MRI (Figure 3) showed multiple areas of nodular enhancement and no evidence of lymphadenopathy.
- PET/CT showed no evidence of distant disease (Figure 4).
- She was determined to have unresectable disease due to the extent of axillary and chest wall skin involved.
- She was initiated on anti-endocrine therapy with an aromatase inhibitor (AI) plus cyclin-dependent kinase (CDK 4/6) inhibitor based off the phase three PALOMA-2 trial with letrozole 2.5 mg daily and palbociclib 125 mg daily ¹¹.



Discussion

- The overall recurrence rate of breast cancer in mastectomy flaps can occur 4-11% of cases ¹²⁻¹⁴. Most of our patient's lesions appeared to be in the skin, not the subcutaneous tissue, and far lateral to any tissue that would normally be excised with a mastectomy. It is possible that she had an incomplete mastectomy leaving some residual breast tissue behind, however most of her disease was lateral to normal breast margins and of a completely different pathology. Upon extensive literature review, we found no evidence of a similar presentation.
- We elected to base our treatment off the phase three PALOMA-2 trial using immunotherapy with a CDK 4/6 inhibitor plus AI, which has shown to have significantly increased progression free survival for hormone receptor positive, HER2 negative breast cancers ^{11 15}.
- After eight weeks, she has experienced a near complete clinical resolution of her nodules.

Conclusion

- The solid-papillary carcinoma subtype of papillary breast carcinoma is an extremely rare form of breast cancer with minimal data on its management. Our patient presented with rapidly growing axillary nodules extending from a mastectomy incision for multifocal DCIS preformed two years prior.
- Immunotherapy with anti-endocrine therapy was initiated based off prior success seen in the PALOMA-2 trial against other hormone receptor positive, HER2 negative breast cancers ^{11 15}.
- This is the first known case report of SPC presenting in such a manner in addition to being treated with immunotherapy.
- While our patient is still amidst neoadjuvant treatment, we have already appreciated an almost complete clinical resolution of her nodules. Depending on final outcomes, a multimodal approach using anti-endocrine and immunotherapy may prove to be beneficial for future cases of invasive SPC.

References

1. Acevedo C, Amaya C, López-Guerra J-L. Rare breast tumors: Review of the literature. *Reports of Practical Oncology & Radiotherapy* 2014;19(4):267-74. doi: 10.1016/j.rpor.2013.08.006
2. WHO Classification of Tumours Editorial Board. 5 ed2019.
3. Otsuki Y, Yamada M, Shimizu S. Solidpapillary carcinoma of the breast: clinicopathological study of 20 cases. *Pathol Int* 2007;57(7):421-9. doi: 10.1111/j.1440-1827.2007.02118.x
4. Burga AM, Fadare O, Lininger RA, et al. Invasive carcinomas of the male breast: a morphologic study of the distribution of histologic subtypes and metastatic patterns in 778 cases. *Virchows Archiv* 2006;449(5):507-12. doi: 10.1007/s00428-006-0305-3
5. Zhong E, Cheng E, Goldfischer M, et al. Papillary Lesions of the Male Breast: A Study of 117 Cases and Brief Review of the Literature Demonstrate a Broad Clinicopathologic Spectrum. *Am J Surg Pathol* 2020;44(1):68-76. doi: 10.1097/PAS.0000000000001340
6. Guo S, Wang Y, Rohr J. Solid papillary carcinoma of the breast: a special entity needs to be distinguished from conventional invasive carcinoma avoiding over-treatment. *Breast* 2016(26):67-72.
7. WHO Classification of Tumours Editorial Board. 5 ed2019.
8. Nunez D, Gonzalez F, Ibarguenoiitia M, et al. Papillary lesions of the breast: a review. *Breast Cancer Management* 2020; 9(4).
9. Clement Z, Jones M. Solid papillary carcinoma of the breast: a review. *Int J Surg Med* 2017;3(1)
10. Lin X, Matsumoto Y, Nakakimura T, et al. Invasive solid papillary carcinoma with neuroendocrine differentiation of the breast: a case report and literature review. *Surgical Case Reports* 2020;6(1) doi: 10.1186/s40792-020-00905-x
11. Finn R, Martin M, Rugo H, et al. Palbociclib and Letrozole in Advanced Breast Cancer. *New England Journal of Medicine* 2016(375):1925-36. doi: 10.1056/NEJMoa1607303
12. Glynn C, Litherland J. Imaging breast augmentation and reconstruction. *The British Institute of Radiology* 2014;81(976) doi: 10.1259/bjir/61567884
13. Chung S, Shin S, Chen X, et al. Recurrent breast carcinoma arising in a transverse rectus abdominis myocutaneous flap. *Arch Pathol Lab Med* 2004;128(10):1157-60. doi: 10.1043/1543-2165
14. Kroll S, Khoo A, Singletary S, et al. Local recurrence risk after skin-sparing and conventional mastectomy: a 6-year follow-up. *Plast Reconstr Surg* 1999;104(4):421-25. doi: 10.1097/00006534
15. Shah M, Nunes M, Stearns V. CDK4/6 Inhibitors: Game Changers in the Management of Hormone Receptor-Positive Advanced Breast Cancer? *Oncology (Williston Park)* 2018;32(5):216-22.