Nipple calcifications in a male patient—blurring the lines between breast cancer and basal cell carcinoma

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Introduction

Nipple Calcifications identified on mammographic imaging can be associated with multiple pathologies including benign processes and cancer. Although basal cell carcinoma (BCC) can occur with calcium deposits in the skin, this is only seen in about 14% of cases. Calcium deposition in the nipple is actually quite rare, with only a handful of reported cases. Furthermore, there are only 55 patients with BCC of the nipple-areolar complex reported worldwide in the current literature. We report a case of a male patient presenting with calcifications on mammogram and biopsy confirming superficial type BCC of the nipple.

METHODS

A 73-year-old healthy male was seen by his primary care physician due to right nipple enlargement for 2 months. He denied pain, nipple discharge, or skin changes. He underwent imaging with a diagnostic mammogram and ultrasound which demonstrated multiple amorphous calcifications within the right nipple measuring 0.6cm. Given the suspicious characteristics of the calcifications and inability to perform image guided biopsy, he was referred to a breast surgeon. On exam, he had a mildly enlarged right nipple, slightly more firm when compared to the contralateral side. There was no skin bleeding or ulceration, no discrete masses palpated, and no axillary lymphadenopathy. A punch biopsy of the area was performed revealing a basal cell carcinoma, superficial type. He was discussed at multi-disciplinary conference with recommendations to perform a surgical excision of the nipple. During surgery, a 3.5cm elliptical wedge comprising of the entire right nipple and part of the surrounding areola was removed. Final pathology demonstrated BCC, with negative margins. He was seen in the post-operative setting, with no evidence of complications.

1.

Final Diagnosis ...

Value

Tip: If needed, scroll horizontally

A. Right breast, nipple, punch biopsy:
- Basal cell carcinoma, superficial type (see note).
- Tumor extends to the lateral inked margin of the specimen.

Note:

Immunohistochemical stains examined on block A1 demonstrate the following results in tumor cells:

Stain	Result
BerEP4	Positive
EMA	Negative

Interpretation: The results support the above diagnosis.

2.

Specimen: Nipple, Right, Right nipple excision, stitch at 12 o'clock

Resulting Agency
NORTHWESTERN MEMORIAL HOSPITAL LAB

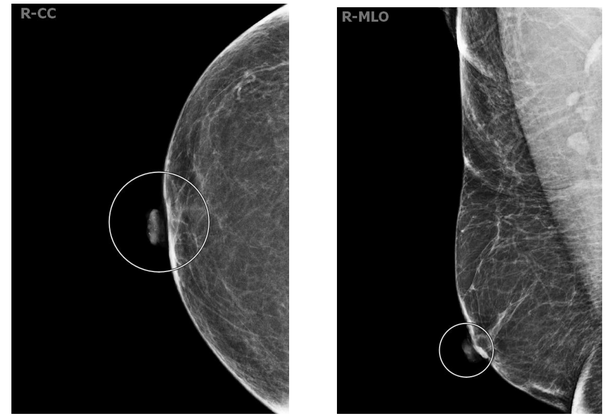
Final Diagnosis ...

Value

Tip: If needed, scroll horizontally

A. Right nipple, excision:
- Basal cell carcinoma, margins are free.
- Biopsy site changes.

3.



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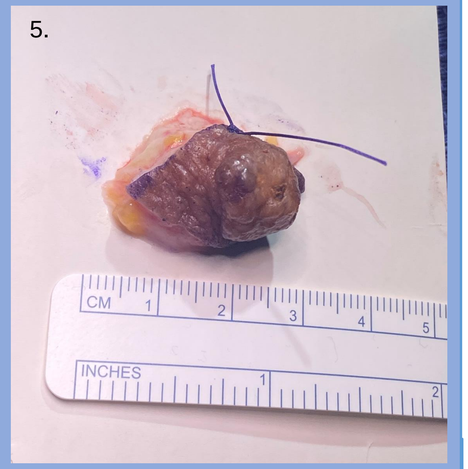

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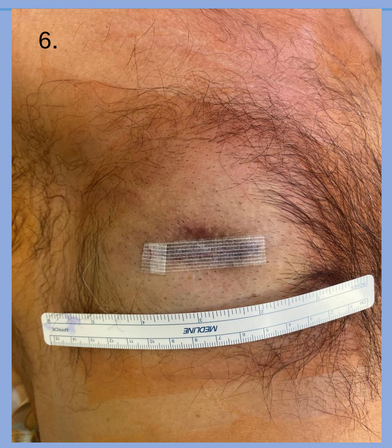

Figure 1. Final Pathology from in-office punch biopsy
Figure 2. Final Pathology from surgical excision
Figure 3. CC and MLO mammographic view demonstrating nipople calcifications
Figure 4. Pre-operative Nipple Areolar complex incisional marking
Figure 5. Surgical specimen
Figure 6. Post excision

RESULTS

This case illustrates the very rare presentation of a basal cell carcinoma located in the nipple. Males account for 1% of all breast cancers and although there was no associated mass, amorphous calcifications prompted recommendation for biopsy per the BI-RADS classification. After the biopsy revealed BCC, the focus shifted from diagnosis to management. There is no consensus about the treatment of BCC of the nipple, thus the patient was referred to a dermatologist and presented at the breast multi-disciplinary tumor board. With this model, we created a successful treatment plan which included surgical excision with negative margins and routine follow-up.

CONCLUSION

It is important to maintain a high degree of suspicion for cancer and use a multi-disciplinary approach for diagnosis and management when faced with rare disease processes and presentations.

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