CASE REPORT

Case Report: Synchronous adenoid cystic variant of basal cell carcinoma in the right lumbar region: case report of an incidental finding in a patient with breast carcinoma [version 1; peer review: 2 not approved]

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Abstract

Skin cancer has emerged as a major problem for light-skinned people globally. Basal cell carcinoma (BCC) is one of the most common forms of skin cancer. BCC is associated with significant morbidity. There are multiple histological patterns of BCC, wherein the adenoid cystic variant is a rare form. A 75-year-old female with a history of breast carcinoma visited our centre for a routine follow-up. The patient was diagnosed with invasive breast carcinoma and underwent left breast conservation surgery in August 2018. At follow-up, the patient complained of itchiness, redness, and ulceration over a long-standing mole located at the right lumbar region. The lesion was excised and histopathologically diagnosed as the adenoid cystic variant of BCC. Adenoid cystic variant of BCC is an uncommon presentation. Identifying the mole in the lumbar region with clinical signs and symptoms was an incidental finding. In most cases, skin moles are benign. However, this case is of considerable interest as the patient presented with two primary cancers of different pathological characteristics within 3 months. The patient is currently doing well and is due for follow-up.

Keywords

Basal cell carcinoma, adenoid cystic, non-melanoma skin cancer

Open Peer Review

Approval Status **XX**

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version 1	X	X
18 Dec 2018	view	view
1. Semir Vranic ^{id} , Qatar University, Doha, Qatar		
2. Mariam Totonchy ^{id} , Skin Surgery Center, Seattle, USA		

Any reports and responses or comments on the article can be found at the end of the article.

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Introduction

Skin cancer has emerged as a major problem for light-skinned people worldwide. Skin tumours are classified based on the melanin concentration. There are two types of skin tumours, non-melanoma skin cancer (NMSC) and malignant melanomas (MM). As compared to NMSC, MM has a more aggressive modality with an estimated mortality of 85% for all fatal skin cancers¹. The most common NMSCs include basal cell carcinoma (BCC), which constitutes approximately 80% of new cases, and squamous cell carcinoma (SCC), which constitutes approximately 20% of new cases¹. BCC is derived from the basal cells while SCC is derived from the squamous cells of the epidermis. SCC is an aggressive form of skin cancer with a high risk of metastasis². BCC is attributed with a slow growth tendency, high risk of recurrence, and a low mortality rate³. We present a case report synchronous adenoid cystic, a rare variant of BCC of right lumbar region in a patient with breast carcinoma.

Case report

A 75-year-old woman with previously diagnosed breast cancer came for a routine follow-up in November 2018 at HCG Manavata Cancer Centre, Nashik, India. The patient was diagnosed with Stage IIA (T2N0) breast cancer in August 2018. The patient underwent left breast conservation surgery in August 2018. She was referred for radiotherapy. She completed radiotherapy (52.7 Gy in 20 fractions) for 20 days in September 2018. At follow-up, the patient complained of itchiness, redness, and ulceration on the long-standing mole. The lesion measured 1.4x0.6 cm. The patient underwent wide local excision at our centre. The lesion was sent for haematoxylin and eosin (H&E) histopathological examination.

Diagnostic assessment

The multiple sections that were examined showed ulcerated epidermis. The dermis was observed to have a tumour with basaloid pattern and peripheral pallisidation, arising from the basal layer of the epidermis. Multiple punched out cystic spaces were observed. Multiple pigment laden macrophages were also observed. The mitotic rate was 9–10 per HPF. Necrosis was not observed. Perineural invasion or lympho-vascular emboli were not observed. Morphological examination of the cells resulted in a diagnosis of the adenoid cystic variant of BCC (Figure 1 and Figure 2). The patient is under close observation.

Figure 1. Low power H&E microscopy image showing basal cell carcinoma with adenoid cystic like areas (magnification, x10).

Figure 2. High power H&E microscopy image showing punched out spaces and high mitosis (magnification, x40).

Discussion

Adenoid cystic variant of BCC is a rare histological entity. Furthermore, ADBCC in the lumbar region is an unusual site of presentation. The diagnosis of ADBCC is important considering its poor prognosis as compared to other variants of BCC. Skin moles are usually benign in nature. However, skin mole presenting with clinical symptoms should not be ignored in patients with already diagnosed malignancy. Our multidisciplinary team of experts ensure robust and comprehensive patient care services. Due to our strengths, the second primary malignancy (ADBCC) was diagnosed early.

Clinicians should not ignore patients with different clinical manifestations other than those reported initially. Assessment of new lesions reported by patients at follow-up should be a norm in clinical practice.

It is essential to report such cases in the literature as it helps disseminate knowledge on synchronous malignancies.

BCC is the most commonly reported skin cancer⁴. It is neither a lethal nor a metastatic disease. However, BCC is characterized by significant morbidity which is secondary to local invasion or destruction⁴. Based on current evidence, the incidence of BCC is 226 per 100,000 people while the age-adjusted prevalence is 343 per 100,000 people⁴. The major risk factor for BCC is ultraviolet light exposure. Other risk factors for BCC include ultraviolet A or psoralen therapy, immunosuppressive medications, radiation therapy, and chronic arsenic toxicity⁴.

The increase in incidence rates of BCC is attributed with lifestyle or environmental changes along with behavioural risk factors. Exposure to UV light, specifically UVB induces mutations in tumour suppressor genes which play a key role in the overall pathogenesis of BCC⁵. Younger age and history of blistering sunburn has been associated with BCC. However, intermittent or continuous exposure throughout life as a risk factor remains unclear to cause BCC⁵. Exposure to UV radiation early in life should be considered as a key risk factor as compared to overall cumulative exposure⁵.

BCC is a common, locally invasive epithelial malignancy of the skin and appendages. An estimated 10 million people are

diagnosed with BCC every year worldwide⁶. The histology of BCC is predictable while certain variants are rare to observe. Some of the rare histological variants include adenoid, cystic, morpheaform, pigmented, infundibulocystic, and miscellaneous variants. These variants account for nearly less than 10% of all BCCs⁶. Adenoid BCC (ADBCC) is a rare histopathological variant with an incidence of approximately 1.3%⁶. The clinical appearance of the adenoid lesion can be pigmented or non-pigmented nodule or an ulcer without predilection for any particular site⁶.

ADBCC is an extremely rare, low-grade, and differentiated malignancy. It is reported at various sites such as the inner canthus of the eye, leg, axillae, back, chin, and forehead⁶. It has also been reported in the cervix and prostate⁶. The rarity of this lesion is evidenced by the paucity of data in the literature. It is important for pathologists to differentiate and make an accurate diagnosis of ADBCC as it often mimics primary cribriform apocrine carcinoma or cutaneous adenoid cystic carcinoma⁶. A similar case of BCC and breast cancer in a single patient was reported in 2014⁷. It is essential to make an accurate diagnosis of ADBCC due to the prognostic differences of these conditions. By writing up this case we hope to contribute to the body of literature about ADBCC, in particular its unique histological characteristics. The treatment of BCC includes surgical and non-surgical options such as excision with primary closure, grafts, and radiotherapy⁸. In our case, the patient had undergone wide local excision⁸.

Conclusion

Adenoid cystic variant of BCC is a rare histological entity. We report synchronous adenoid cystic variant of BCC of the right lumbar region in a patient with breast cancer. Clinicians should be vigilant about patients with different clinical manifestations. Multidisciplinary support was our core strength in assessing the patient with a new lesion which in turn led to an incidental finding of a rare skin cancer.

Data availability

All data underlying the results are available as part of the article and no additional source data are required.

Consent

Written informed consent for publication of their clinical details and images was obtained from the patient.

Grant information

The author(s) declared that no grants were involved in supporting this work.

Acknowledgments

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Mariam Totonchy

Skin Surgery Center, Seattle, WA, USA

Overall, I think this is an interesting case presentation of a rare subtype of basal cell carcinoma, however, I think there are several points that need to be improved upon.

There are several statements that should be amended. For example, BCC is the most common form of skin cancer, and it would be best to state this directly in the introduction. It is important to correct that skin tumors are not classified based on melanin concentration but on the identified cell of origin. Compared to other tumors, cutaneous SCC does not have a high risk of metastasis (~1.9-4%) so I would be careful about the wording there. Also, compared to other cutaneous malignancies, BCC does not have a high risk of recurrence.

I would include additional important details regarding the patient, including her Fitzpatrick skin type, type of breast cancer, and if the location of the BCC was within the radiation field (unlikely given the description, but would be important to know). Follow-up information would also be helpful to report on the patient. I would also include in the discussion any demographic information that is available on patients with adenoid cystic BCCs as reported in the literature.

You state that the adenoid cystic variant of BCC emerged from a pre-existing mole, however, no collision lesion was identified in the description of the histopathology. It would be interesting to the overall discussion if a nevus was identified adjacent to the BCC as this may have important implications. Regardless of whether or not a nevus was identified on pathology, this should be commented upon and is important for the overall description of the case. BCCs are often pigmented in patients with darker skin types, so this would be an important point to clarify.

I do not think that there is enough evidence presented in this report or in the literature to suggest that adenoid cystic BCC has a poor prognosis as compared to BCC. I would remove this statement or provide additional evidence to back the claim.

Is the background of the case's history and progression described in sufficient detail?

Partly

Are enough details provided of any physical examination and diagnostic tests, treatment given and outcomes?

Partly

Is sufficient discussion included of the importance of the findings and their relevance to future understanding of disease processes, diagnosis or treatment?

Partly

Is the case presented with sufficient detail to be useful for other practitioners?

Yes

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: cutaneous oncology, non-melanoma skin cancer, melanoma, cutaneous/dermatologic surgery and reconstruction

I confirm that I have read this submission and believe that I have an appropriate level of expertise to state that I do not consider it to be of an acceptable scientific standard, for reasons outlined above.

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Semir Vranic

College of Medicine, Qatar University, Doha, Qatar

The authors should provide more info on the primary breast cancer; what was the status of ER, PR and Her2 in primary breast cancer? It is unusual that primary breast cancer (pT2No) is only treated by radiotherapy.

What was the immunohistochemical profile of ACC variant of BCC? This must be clearly provided. There are also rare variants of primary ACC of the skin as well as ACC of the breast (including basaloid variants that are usually high grade cancers). It is not easy to appreciate mitotic figures in skin cancer (I am a pathologist).

Is the background of the case's history and progression described in sufficient detail?

No

Are enough details provided of any physical examination and diagnostic tests, treatment

given and outcomes?

No

Is sufficient discussion included of the importance of the findings and their relevance to future understanding of disease processes, diagnosis or treatment?

No

Is the case presented with sufficient detail to be useful for other practitioners?

No

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: Pathology

I confirm that I have read this submission and believe that I have an appropriate level of expertise to state that I do not consider it to be of an acceptable scientific standard, for reasons outlined above.

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