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Case Report

Axillary primary mucin producing epithelial malignancy - rarely encountered site

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ABSTRACT

The most common skin malignancy in the axilla is Basal cell carcinoma. Primary mucin producing epithelial carcinoma in the axilla can closely resemble metastatic mucinous carcinoma, most often originating from the breast, but also from the gastrointestinal tract, lung or ovary. Axilla is a rare site for primary mucin-producing epithelial carcinoma of skin. Thorough clinical examination histopathological examination with IHC and other ancillary investigations are necessary to confirm the diagnosis and to rule out metastatic mucinous carcinoma. We present a rare case of primary mucin producing epithelial carcinoma of axillary skin in an elderly male patient which was present since two and half year, without any complication. Which was diagnosed by histopathological examination, complete clinical examination and radiological examination and confirmed with IHC marker. Which presented to us as a lesion mimicking benign cyst. Which was managed by wide local excision of the lesion and lymph node dissection till level II.

Keywords: Axilla, IHC markers, Metastatic mucin producing carcinoma, Primary mucin producing carcinoma, Rare site

INTRODUCTION

Primary mucinous carcinoma of skin is usually seen in the head and neck region, mostly from the eyelid and periorbital region.[1,2] Only eight cases have been described in the axilla. Primary cancer of skin in the axilla can be SCC and BCC, Melanoma, Eccrine or Apocrine gland carcinoma, Paget's disease in the axilla, axillary metastatic skin lesions may be from breast cancer, melanoma, or other primaries. Mucin-producing epithelial malignancy in the axilla usually refers to primary cutaneous mucinous carcinoma – a rare sweat gland malignancy, originating from the Eccrine sweat gland.

Mucin-producing adenocarcinoma in the axilla may be a case of metastasis from the breast or GI tract. In our case study, we report an unusual occurrence of mucin producing epithelial carcinoma in the axilla, which is an exceptionally rare site for primary skin carcinoma. The possibility of eccrine gland origin in this sun protected area makes the case even more uncommon. Given this atypical location, metastatic disease must always be considered in the differential diagnosis. In our case, we report it as a benign cyst, hence a high index of suspicion for skin malignancy should also be considered.

CASE REPORT

Herein, we present a 65-year-old man who, presented with complaints of actively bleeding from axillary swelling of size 5x5cm in the casualty. The patient had this swelling since 2 and half year without any complaints, was gradually increasing in size. In emergency bleeding was stopped by using vicryl suture. Initially it was mimicking a cyst. But because of bleeding, computed tomography of chest and neck involving axilla section was done. Which was suggestive of cyst with abscess, so decided to operate on elective

basis. Cyst excision was done which came out to be well differentiated mucin producing epithelial malignancy on histopathology. Gross appearance on cut section haemorrhaging and shows small solid whitish area measuring 5x5 cm (Figure 2). Adjacent tissue shows fibrosis. Microscopic picture shows section studied show many nests and island of tumour cells at places showing cribriform pattern floating in the pool of mucin. Individual cells are polygonal to round having centrally placed round hyperchromatic nuclei with few showing small inconspicuous nucleoli.

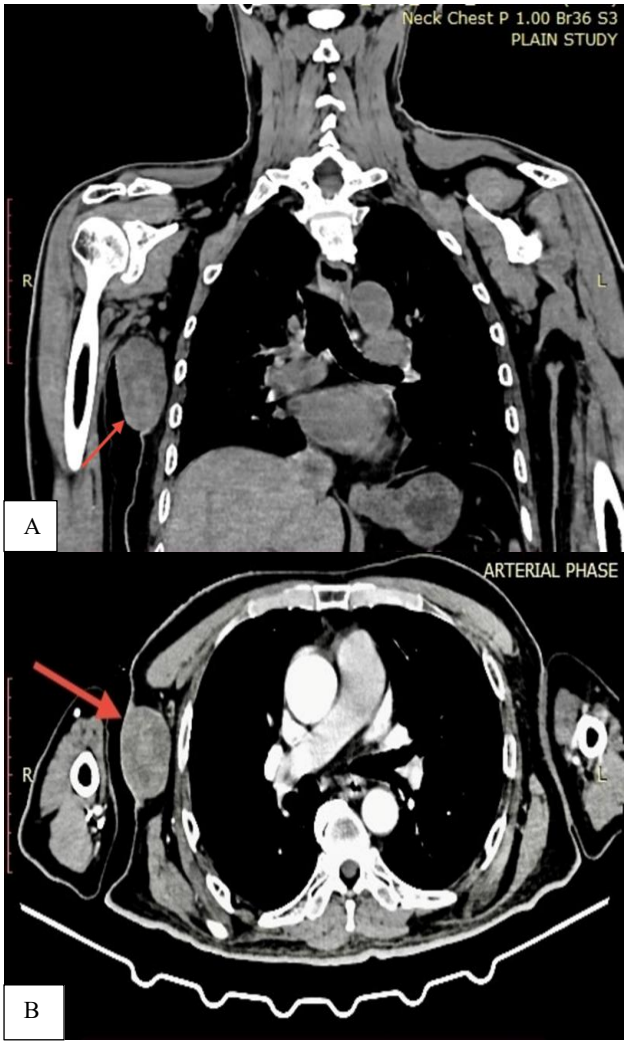

Figure 1 (A and B): Coronal and axial section of computerized tomography (CT) of the thorax and neck including axillary section (red arrow).

Cytoplasm is moderate. In between mucin pool area of haemorrhage seen. Overlying epidermis show focal ulceration and base is formed by inflammatory cells with red blood cells (Figure 3). The differential diagnosis included primary mucinous carcinoma and metastasis from other primary sites of mucinous adenocarcinoma such as breast, lung and gastrointestinal. Immunohistochemical profiling was performed on the specimen, was positive for estrogen receptor (ER) and negative for TTF1 (Thyroid transcription factor 1), COX2 (cyclooxygenase 2), AMACR (alpha methyl acyl-CoA racemase), Chromogranin. He had diabetes and hypertension but non-compliant to medication. Also, he had history of cerebro-vascular accident and right-side hemiparesis 10 years back was not on any medication.

Figure 2: Gross appearance of malignancy, bleeding site is pointed with red arrow.

No abnormalities were present on breast examination, nor did he have any other abnormal cutaneous lesions or lymphadenopathy. Endoscopic investigation like gastroscopy and colonoscopy was within normal limit. Imaging in the form of computerized tomography (CT) of the thorax and neck including axillary section, (Figure 1), review reporting was suggestive of a well-defined heterogenous attenuation lesion showing mixed hypodense and mildly hyperdense contents within, with areas showing irregularly thickened, peripheral enhancing wall thickening and central non-enhancing component in the right axilla. These findings are consistent with HPE proven mucin producing epithelial malignancy. CT of the brain was suggestive of chronic lacunar infarct and mild age-related cerebral atrophy. Mammography and ultrasound of the breast was normal, as was ultrasound of thyroid. In 2nd set up wide local excision with axillary lymph node dissection till level 2 was done. The wide defect was covered with pectoralis major muscle flap done by plastic surgeon.

In histopathological examination margin and ten lymph nodes came free of tumour. With no definite primary mucin-producing carcinoma identified, further multidisciplinary discussion with surgical and medical oncology, they advised to keep patient on follow up for clinical surveillance. Radiotherapy of the axilla was also contraindicated, given the axillary clearance. The patient (who remains asymptomatic) was thus commenced on close clinical surveillance. No recurrence or postoperative complications were noted during the 6 months follow up.

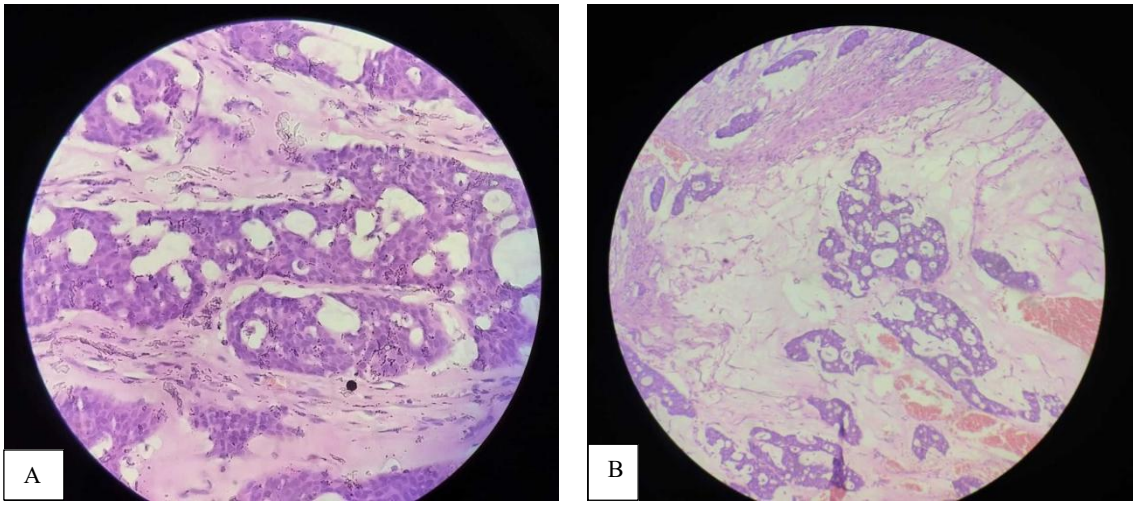

Figure 3 (A and B): Histopathological appearance of malignancy.

DISCUSSION

Primary mucin-producing carcinoma is an uncommon subtype of sweat gland tumour, with <150 cases described in the literature till date.[3,4] Primary mucin-producing carcinoma is a rare adnexal neoplasm with sweat gland differentiation, primarily eccrine gland in origin which was first described by Lennox et al.[5] We came across a case of primary mucinous carcinoma in the axilla. Most of the authors favour its eccrine differentiation over apocrine differentiation based on immunohistochemistry, electron microscopic, and ultrastructural analysis.[3] Primary mucinous eccrine carcinoma is a slow-growing low-grade malignancy, indolent clinical course, often remaining undiagnosed for several years, with a risk of local recurrence in 30%-40% of cases.[6,7] Clinically, it is frequently misdiagnosed as an epidermal cyst, sebaceous cyst, lipoma, cystic basal cell carcinoma, squamous cell carcinoma, neuroma, metastatic adenocarcinoma or pilomatrixoma.[6] Our patient presented with a gradually progressive swelling in the axilla, which was eroding the skin and presented as a cyst.

Microscopic examination revealed a neoplasm composed of basaloid cells, set within extensive pools of loosely arranged stroma. The tumour cells were relatively uniform in size and shape and contained few mitotic figures. They were grouped into nests, some of which appeared to be lobulated with rudimentary ductal structures. Strands of fibrous connective tissue separated the tumour into compartments.[8] The primary cutaneous mucin-producing carcinoma has a tendency to show immunoreactivities to carcinoembryonic antigen (CEA), epithelial membrane antigen, broad spectrum cytokeratine.[9] Primary cutaneous mucinous carcinoma is chemo- and radio-resistant.[2,3] Wide local excision and follow-up is the treatment of choice for this malignancy. Distant metastasis is very rare and is found in only 3% of the cases.[7] Follow-up of the patients at a regular interval is necessary to detect any recurrence or metastasis.[10] We managed the case with wide local excision, followed by the recommendation for ongoing follow up. It has a better prognosis than other malignant skin appendage tumours. The prognosis is very good in comparison to secondary mucinous carcinomas. The secondaries from the GI tract and breast are difficult to rule out on morphology alone and which require thorough clinic radiological examination to rule out the secondaries. Our case necessitated detailed clinical assessment along with radiological, histopathological and immunohistochemical investigations to differentiate a primary carcinoma from a metastatic lesion.

CONCLUSION

This case highlights the rarity of axillary skin carcinoma, particularly mucin producing epithelial carcinoma at this site. Rare case site wise, origin wise and risk factor wise, which requires proper evaluation and management. Although the lesion appeared clinically benign, similar to as a cyst, definitive diagnosis required histopathological examination, supported by immunohistochemistry and radiological examination to rule out possible metastasis. A high index of suspicion for skin malignancy should be kept in mind.

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REFERENCES

1. Bari V, Poshirkar A. Cutaneous primary mucinous adenocarcinoma of axilla – a rare tumour at rare site. Int J Curr Med Appl Sci. 2015;9:7-9.
2. Kotru M, Manucha V, Singh UR. Cytologic and histologic features of primary mucinous adenocarcinoma of skin in the axilla: a case report. Acta Cytol. 2007;51:571-4.
3. Martinez S, Young S. Primary mucinous carcinoma of the skin: a review. Internet J Oncol. 2004;2:1-7.
4. Maerki J, Ahmed S, Lee E. Primary mucinous carcinoma of the skin. ePlasty. 2013;13:ic47.

5. Lennox B, Pearse AE, Richards HG. Mucin-secreting tumours of the skin: with special reference to the so-called mixed-salivary tumour of the skin and its relation to hidradenoma. J Pathol Bacteriol. 1952;64:865-80.
6. Adefusika JA, Pimentel JD, Chavan RN, Brewer JD. Primary mucinous carcinoma of the skin: the Mayo Clinic experience over the past 2 decades. Dermatol Surg. 2015;41:201-8.
7. Hemalatha AL, Kausalya SK, Amita K, Sanjay M, Lavanya MS. Primary mucinous eccrine adenocarcinoma – a rare malignant cutaneous adnexal neoplasm at an unconventional site. J Clin Diagn Res. 2014;8:FD14-5.
8. Snow SN, Reizner GT. Mucinous eccrine carcinoma of the eyelid. Cancer. 1992;70(8):2099-104.
9. Bellezza G, Sidoni A, Bucciarelli E. Primary mucinous carcinoma of the skin. Am J Dermatopathol. 2000;22(2):166-9.
10. Kazakov DV, Suster S, LeBoit PE, Calonje E, Bisceglia M, Kutzner H, et al. Mucinous carcinoma of the skin, primary, and secondary: a clinicopathologic study of 63 cases with emphasis on the morphologic spectrum of primary cutaneous forms: homologies with mucinous lesions in the breast. Am J Surg Pathol. 2005;29:764-82.

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