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## Case report: A rare case of eccrine carcinoma



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## ABSTRACT

**INTRODUCTIONS:** Sweat gland carcinoma is very rare with a reported incidence of less than 0.005% of all tumour specimens resected surgically (Tulenko and Conway, 1965) [1].

**CASE REPORT:** A sixty year old male patient presented to us with a solitary swelling over the left chest wall since two months.

**DISCUSSION:** Cutaneous apocrine gland carcinoma, a subtype of sweat gland carcinoma, is a very rare malignant neoplasm arising in areas of high apocrine sweat gland density.

The variability of the histological features even in the same tumour, and its rarity, have contributed to some confusion regarding the classification of sweat gland carcinoma.

**CONCLUSIONS:** Sweat gland carcinomas are a rare group of tumours with potential for local destruction as well as distant metastasis. Wide surgical excision along with regional lymph node dissection in the presence of clinically positive nodes is the recommended treatment. However, a frequent follow up is essential to detect early recurrence as well as distant metastasis.

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## 1. Introduction

Sweat gland carcinoma is very rare with a reported incidence of less than 0.005% of all tumour specimens resected surgically [1]. They represent a group of tumours with potential for local tissue infiltration and regional as well as distant metastasis. Due to limited availability of literature, the diagnosis as well as management of these tumours is quite difficult. Here we present a case of an eccrine carcinoma because of its rarity over the chest wall, its diagnosis and management.

## 2. Presentation of case

A sixty year old male patient presented to us with a solitary swelling over the left chest wall since two months, which was approximately 3 × 3 cm in size, slowly growing, painless, hard in consistency with smooth surface, on-mobile and not associated with discharge and axillary lymphadenopathy (shown in Fig. 1). All routine investigations were within normal limit Fine Needle Aspiration (FNAC) of the lesion was positive for carcinoma cells suggestive of adenocarcinoma. CT scan was done and it was suggestive of well-defined round to oval peripheral enhancing soft tissue

lesion involving left anterolateral chest wall with cortical break and erosion of the 6th and 7th ribs suggestive of neoplastic etiology.

## 2.1. Management

We managed the case with wide excision of the swelling with segmental excision of the involved segments of the ribs with pleura followed by a Delto-Pectoral fasciocutaneous flap with insertion of an intercostal drain (shown in Fig. 2). Histopathology report confirmed an eccrine carcinoma with involvement of the ribs (shown in Fig. 3). The tumour cells immunohistochemical study showed that tumour cells were positive for pancytokeratin/CK7/Calretinin with focal luminal immunoreactivity for CEA (shown in Fig. 4). Based on the above characteristic morphologic and immunohistochemical findings, the diagnosis of primary Eccrine adenocarcinoma was made. We lost the follow up of the patient after 3 months.

## 3. Discussion

Sweat glands are of two types:

- Eccrine sweat glands open directly onto the surface of the skin and are widely distributed almost everywhere.
- Apocrine sweat glands are found in the armpit, areola, perineum, ear and in the eyelid. Rather than opening directly onto the surface of the skin, they secrete sweat into the pilary canal of the hair follicle.

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Fig. 1. shows solitary swelling over the left chest wall

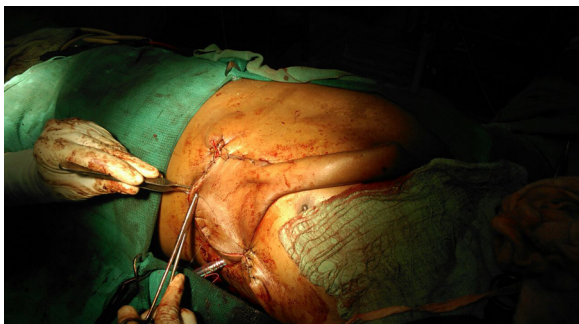


Fig. 2. shows Delto-Pectoral fasciocutaneous flap

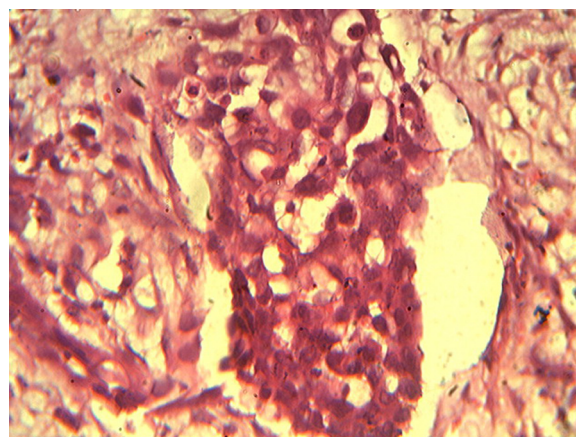


Fig. 3. Microphotograph (H&E) section

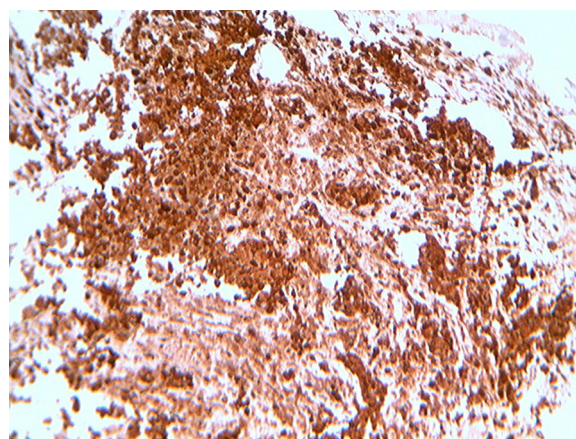


Fig. 4. Microphotograph immunohistochemical study showed that tumour cells were positive for pancytokeratin

Sweat gland carcinomas represent a rare group of tumours with potential for destructive local tissue infiltration and regional as well as distant metastasis. The management of these neoplasms is both complex and cumbersome, mainly due to limited availability of literature. Histological resemblance to the mature gland in biopsy specimen contributes, but diagnosis is primarily based on immunohistochemistry or ultrastructural features. These tumours, therefore, can be considered as clinico-pathological dilemmas with an unpredictable biological behaviour. Rarely diagnosed clinically, they are often encountered as operative and histological surprises [2–6].

Sweat gland carcinomas occur primarily in adult patients, with a peak incidence in fifth and sixth decades of life [3,7,8]. Majority occur in the genital skin and perineum (34.5%), followed by trunk (26.4%), head and neck (18.3%) and lower extremities (13.9%) [3,6,7,9].

Some problems are related to the classification of sweat gland carcinomas, which are currently classified on the basis of the corresponding classification of benign sweat gland adenoma [10]. Such an approach, however, poses several problems; for example,

- (a) some carcinomas have no benign counterpart and do not fit the scheme (ductal carcinoma, adenoid cystic carcinoma, and mucinous carcinoma);
- (b) poorly differentiated carcinomas can be diagnosed only when a contiguous adenoma is found histologically;
- (c) histologic classification can be very complicated because adenomas are numerous, and their classification is complex;
- (d) terminology includes unusual and difficult terms, deriving from the terminology used for adenomas (malignant acrospiroma, porocarcinoma, hidradenocarcinoma, malignant cylindroma, malignant spiradenoma, and syringocystadenocarcinoma) [11–14].

Finally, recent studies have classified sweat gland carcinomas into eccrine and apocrine tumours [13,14].

- Apocrine carcinomas manifest as non-tender single or multiple, firm, rubbery or cystic masses with red to purple overlying skin [3,6,9]. Tumour cells are PAS (periodic acid-schiff stain) positive due to glycogen granules and diastase resistant [3].
- Eccrine gland carcinomas possess no distinctive clinical features making diagnosis by gross appearance virtually impossible. They usually manifest as non-tender, subcutaneous nodules, primarily in elderly individuals. Individual malignant cells are rich in glycogen and stain with PAS and are diastase sensitive with prevalent nuclear changes and propensity for lymphatic invasion [8,9]. Sites of sweat gland carcinoma metastasis include nodes, lungs, liver and bone [3,9,15]. Metastatic deposits from undiagnosed visceral and breast adenocarcinoma are virtually indistinguishable microscopically from sweat gland carcinoma and must be considered before a diagnosis of metastatic sweat gland carcinoma is made.

The recommended treatment of all subtypes of sweat gland carcinomas is wide surgical excision along with regional lymph node dissection in the presence of clinically positive nodes. Some authors advocate prophylactic regional lymph node dissection, especially in patients with recurrent lesions after wide excision or with highly undifferentiated tumours. Sweat gland carcinomas are radio resistant, and chemotherapy has been infrequently employed [16]. Prognostic factors for sweat gland carcinoma are difficult to identify, again owing to the small number of reported cases. The likely prognostic factors include size, histological type, lymph node involvement and distant metastasis. A 10-year disease free survival

rate of 56% in the absence of lymph node metastasis is observed which falls to 9% if nodes are involved [3,15–17].

#### 4. Conclusion

Sweat gland carcinomas are a rare group of tumours with potential for local destruction as well as distant metastasis. Wide surgical excision along with regional lymph node dissection in the presence of clinically positive nodes is the recommended treatment. However, a frequent follow up is essential to detect early recurrence as well as distant metastasis.

#### Conflicts of interest

None.

#### Funding

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#### Ethical approval

None.

#### Consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

#### Author contributions

Ashok Y. Kshirsagar: Figures; J.V. Wader: Abstract; Dr Basavaraj Nagur: Introduction; Dr Sangeeta Biradar: Presentation of case and discussion; Dr Jigneshkumar savsaviya: Conclusion; Dr Trishant chotai: References; Dr Aman Agarwal.

#### Guarantor

Ashok Y. Kshirsagar.

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