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Pathology

UNUSUAL PRESENTATION OF ADNEXAL ADENOCARCINOMA NOS : A CASE OF CLINICAL MIMIC WITH HEMANGIOMA.

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ABSTRACT Adnexal Adenocarcinoma is an uncommon primary skin cancer that arises from the adnexal structures and is distinguished by ductal and glandular differentiation is called adnexal adenocarcinoma not otherwise defined (NOS). The head and neck, especially the cheek, are where it usually appears, however the trunk may also be affected on occasion. Elderly patients, usually men in their late 50s or older, are frequently diagnosed with this malignancy. Usually appearing as a slow-growing nodule or plaque, it can go undetected for years and has the potential to spread and reoccur. We describe a case of an 85-year-old man who had a right axillary swelling for five years, which was later determined to be a hemangioma. Upon gross examination, a soft tissue mass with ulcers was found. Microscopic analysis revealed characteristics that were typical of adnexal adenocarcinoma NOS, such as comedo necrosis, complicated cribriform glands, infiltrating tubular glands, mild nuclear pleomorphism, and eosinophilic cytoplasm. GATA3, CEA, TRPS1, P63, Ki67, and other immunohistochemistry (IHC) markers were employed for differential diagnosis and to validate the final diagnosis. GATA3, a marker for breast and adnexal carcinoma, was detected in the tumor with a low proliferation index (Ki67: 7-8%). The original skin origin of the intermediate-grade adnexal adenocarcinoma NOS was confirmed, and breast metastases and other secondary cancers were ruled out.

KEYWORDS :

INTRODUCTION

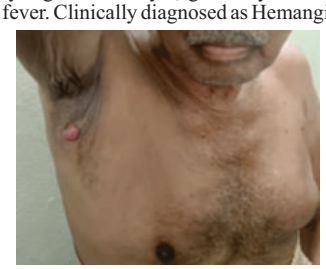
Skin tumors constitute a broad and heterogeneous group of neoplasms arising from the epidermis, dermis, and specialized adnexal structures. While keratinocytic and melanocytic tumors comprise the majority of cutaneous neoplasms, appendageal tumors represent a distinct and diagnostically challenging subset because of their diverse differentiation patterns, rarity, and morphologic overlap with adnexal structures and visceral glandular malignancies. Cutaneous adnexal tumors originate from hair follicles, sebaceous glands, apocrine glands, and eccrine glands, and collectively display a wide biological spectrum ranging from indolent benign lesions to aggressive malignancies capable of recurrence and metastasis.

Malignant adnexal tumors are uncommon, yet they demand careful evaluation due to their infiltrative growth, potential for perineural and lymphovascular invasion, and occasional nodal or distant spread. Their architectural heterogeneity and cytologic variability often complicate diagnosis, particularly on limited biopsy material. Recent advances in immunohistochemistry and molecular techniques have facilitated better lineage allocation, but classification remains challenging in tumors that do not conform neatly to established morphological categories.

Among these, adnexal adenocarcinoma, not otherwise specified (NOS) represents a rare malignant epithelial neoplasm exhibiting glandular differentiation without definitive features of eccrine, apocrine, follicular, or sebaceous lineage. Adnexal Adenocarcinoma not otherwise specified, although lacks certain histological characteristics for additional classification, it is a primary cancer of the skin with ductal and glandular development. The head and neck, especially the cheek, are where it most frequently appears, followed by the trunk. usually appears as a single, variable-sized, slow-growing nodule or plaque that might be long-standing. More individuals are diagnosed in their late 50s, and it affects more males than women. It has the potential to spread and reoccur.

Case History

An 85 years old male presented with chief complaints of swelling in the right axillary region since 5yrs, gradually increasing in size, no history of pain, fever. Clinically diagnosed as Hemangioma.



Gross Findings

Received single, skin covered, ulcerated soft tissue mass measuring 2 x 1 x 0.5 cm.

Cut section shows grey white areas .

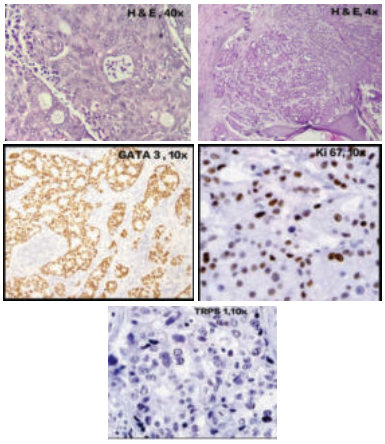
Microscopic Findings

Sections studied shows skin with ulceration and malignant epithelial tumor composed of predominant pattern of complex cribriform glands with foci of infiltrating tubular glands.Tumor cells show moderate nuclear pleomorphism and abundant eosinophilic cytoplasm. comedo necrosis is present. Intraglandular and foci of stromal mucin is present. Few mitosis noted.

Suggested IHC markers - GATA3, CEA,TRPS1, p63, Ki67

Diffential Diagnosis

1. Adnexal Adenocarcinoma Not otherwise specified.
2. Apocrine carcinoma.
3. Secondary metastasis from breast.



DISCUSSION

Adnexal adenocarcinoma NOS, also known as eccrine carcinoma, is an uncommon type of carcinoma that develops from the skin's eccrine sweat glands and makes up fewer than 0.01% of all cutaneous cancers. Only a small part of the diagnosis is made by immunohistochemistry, which is only helpful in ruling out potential conditions such breast metastases and cutaneous metastases from visceral original adenocarcinomas. The combination of epidermal involvement and the lack of lymphovascular invasion or multifocality favors primary adenocarcinoma over metastasis in histology. Adnexal adenocarcinoma is identified by the expression of the markers GATA3, CEA, P63, and EMA. In confined early lesions, the prognosis is favorable; in metastatic lesions, it is not.As a result, early identification and treatment are crucial.

In this instance, we obtained a specimen that was removed from the right axillary region and was clinically diagnosed as a hemangioma. In gross terms, it is a single, 2x1x0.5 cm soft tissue mass that is covered in skin and has ulcers. Microscopic analysis reveals stratified squamous epithelium that is ulcerated.The tumor itself, which is composed of giant epithelial cells with vesicular nuclei, conspicuous eosinophilic cytoplasm, and strange mitotic activity of 2-3/10HPF, is shown by the subepithelium. These cells are found in cribriform, tubular, glandular, and comoedo-type patterns with necrosis. The fibrous surrounding stroma has chronic inflammatory infiltrates and tumor invasion. Histological characteristics point to a malignant skin lesion with potential subsequent breast metastases, apocrine carcinoma, and adenexal adenocarcinoma NOS. We have forwarded the case for immunohistochemistry analysis in order to validate these divergent findings. Based on immunohistochemistry analysis, GATA3 (breast/adnexal marker)) was positive ,TRPS 1 (breast marker) was negative, p63 (myoepithelial /adnexal marker) was negative, CEA (adnexal marker) was negative, Ki67 (proliferative index) was 7-8%. With the help of IHC markers breast secondaries and other visceral secondaries are ruled out and as Adenocarcinoma NOS is the diagnosis of exclusion this case is finally diagnosed as adnexal adenocarcinoma NOS of intermediate grade (proliferative index -7-8%).

Final Diagnosis :

Intermediate Grade Adenocarcinoma-adnexal Adenocarcinoma Not Otherwise Specified.

Confirmed by immunohistochemical examination. GATA3 –POSITIVE, CEA –NEGATIVE, TRPS 1 –NEGATIVE, P63-NEGATIVE, KI67-7-8%.

CONCLUSION

Adnexal adenocarcinoma NOS is a rare and challenging diagnosis due to its histological overlap with other cutaneous and metastatic malignancies. In this case, clinical, gross, microscopic, and immunohistochemical findings were crucial in establishing the diagnosis and ruling out secondary metastases. Early identification and surgical resection are important for improving prognosis, as metastasis and recurrence are potential risks, especially in intermediate-grade lesions. This case emphasizes the importance of considering adnexal adenocarcinoma NOS in the differential diagnosis of skin tumors with glandular and ductal features, particularly when clinical suspicion and histopathological examination are inconclusive.

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