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Eccrine Clear Cell Hidradenocarcinoma in an Elderly Female: A Rare Case

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Conflicts of Interest: Nil

Abstract

An 80 year old female with medical history of non Hodgkin's lymphoma in remission presented with skin lesion at right suprapubic region with inflammatory papule following tick bite. The lesion progressively enlarged to a hard, mobile 2.5 cm nodule over the course of three years. After surgical excision, on histopathological examination revealed Eccrine clear cell Hidradenocarcinoma. After diagnosis, the patient underwent PET imaging that showed localized metabolic activity at excision site without lymph node involvement or distant metastasis. A repeat wide excision was performed to achieve clear margins. This case emphasizes the importance of vigilance in evaluating evolving skin lesions, especially benign appearance. Eccrine cell Hidradenocarcinoma is a rare and slow growing malignant tumor. The diagnosis is often delayed due to indolent nature and resemblance to benign skin lesions.

Keywords: Eccrine clear cell Hidradenocarcinoma, sweat gland tumor, Clear cell carcinoma, Skin malignancy, Neoplasm, rare malignancy, PET scan

Introduction

Eccrine clear cell Hidradenocarcinoma is an extremely rare form of sweat gland carcinoma, with only a few of cases reported in the literature so far [1,2].These types of tumors exhibit clear cell morphology and locally aggressive behavior, which pose diagnostic challenges for the clinician [3].We present a unique case of an 80-year-old female with a history of non-Hodgkin

lymphoma, hypertension, diabetes mellitus, and atrial fibrillation who developed a slowly growing, marble-sized nodule on the suprapubic area over the course of three years. This case is particularly noteworthy due to the patient's complex medical history and the unusual presentation of the tumor, which initially appeared benign and was only discovered incidentally during a hernia repair surgery.

The patient's history of a tick bite at the same anatomical site approximately three years prior to the nodule's presentation adds another layer of complexity to the case. This raises the question regarding the causative as well as etiological factors and the crucial role of inflammatory process in development of tumor [4].

Case Report

An 80-year-old Caucasian female with a medical history of non-Hodgkin's lymphoma in remission for over five years presented with a nodule at the right suprapubic region following a tick bite that occurred three years ago. The tick was removed after one day, and the patient did not experience any symptoms or rash related to the tick bite. Shortly after the tick removal, the patient noticed a small papule that gradually enlarged over the course of three years into a 2.5 cm, marble-sized, hard, mobile nodule, without associated local or distant lymphadenopathy. The patient reported intermittent itching and mild soreness upon pressure at the site.

During a hernia repair procedure, this nodule was excised, and histopathological examination confirmed a diagnosis of clear-cell Hidradenocarcinoma. The immunohistochemical stains were positive for CK7, SOX10, CK 8/18, and weakly positive for GATA3 and negative for PAX8, CK20, CDX2, TTF1, S100, ER. A subsequent PET scan was performed to assess for sentinel or distant metastasis, revealing metabolic activity at the site of the excised nodule. In response, the patient is scheduled for wide excision of the affected area. Repeat pathology showed clear margins. We will continue to monitor the patient for recurrence and, if necessary, consider adjuvant chemo radiation therapy.

Discussion

The histopathological examination playsa pivotal role in diagnosing Eccrine cell Hidradenocarcinoma and this highlights the importance of morphological examination of any new lesion or changing in skin color and size of the lesion, even though they look benign in appearance. This emphasizes the diagnostic vigilance in an elderly patient presenting with atypical symptoms with complex medical history, where the risk of malignancies is very high and needs special attention [5, 6]. The patient's history of a tick bite preceding the development of the nodule raises the questions about the potential role of tick-borne pathogens or localized inflammatory responses in the tumorigenesis. However, no direct association between tick bites and Eccrine Clear Cell Hidradenocarcinoma has been reported in the literature, and immune malfunction and chronic inflammation have been implicated in the pathogenesis of various cancers [7]. The origin of carcinogenic pathways is usually begun from prolonged chronic irritation which leads to immune dysregulation [7]. Hence forth, further research is required to investigated the important link between etiology of tick bites and skin cancer development, especially in suprapubic area which is unusual location for the skin cancer specially for the Eccrine Hidradenocarcinoma in the individual with pre-existing risk factors such as advanced age and immunosuppression. The unusual location of the tumor on the suprapubic area, combined with the patient's history of non-Hodgkin lymphoma, also prompts consideration of potential metastatic spread

or secondary malignancy, however morphological examination did not support the potential metastasic spread. The nodule was discovered incidentally during hernia surgery and diagnosed on histopathological examination emphasizing the value of comprehensive clinical examination and the importance of considering even seemingly benign but long standing lesions for pathological evaluation.

Conclusion

We present a rare case of indolent Eccrine Clear Cell Hidradenocarcinoma at an unusual site, the suprapubic region, following a tick bite. History of tick bite preceding the development of nodules raises the potential role of tick borne pathogens or localized inflammatory response in the development of the malignancy. So far no direct link between tick bite and tumor has been established although chronic inflammation and immune dysregulation have been implicated in multiple tumors. This case warrants further exploration into the possible role of tick bite and skin cancer pathogenesis mainly in elderly patients with immunosuppression..

Early wide excision remains the primary treatment approach. Given the potential for recurrence and metastasis, the patient will be closely followed over the next two years. This rare and atypical presentation emphasizes the importance of vigilance in evaluating long standing skin lesions, even if it appears clinically benign.

Further research is needed to investigate the potential association between tick bites and skin cancer development, particularly in individuals with pre-existing risk factors such as advanced age and immunosuppression.

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Legend Figures

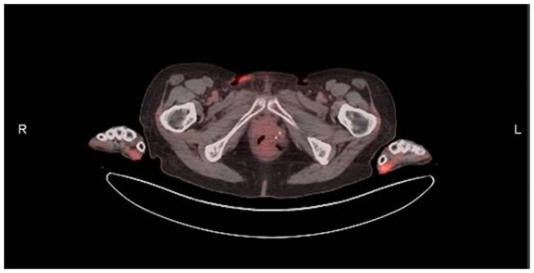

Figure 1: Blue arrow shows increased metabolic activity post surgery

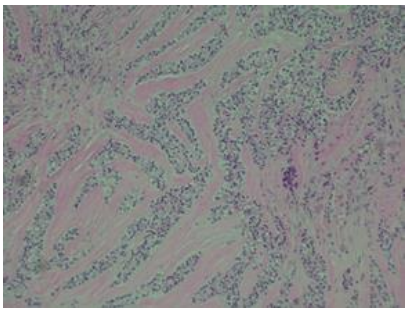

Figure 2: Malignant cells are arranged in sheets and cords(H&E,10X)

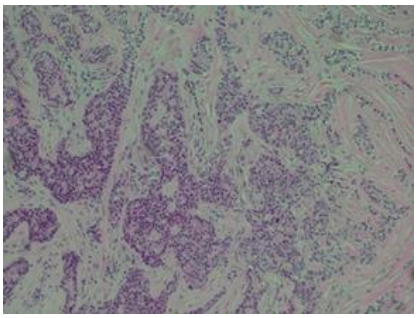

Figure 3: Malignant cells are round in shape with clear cytoplasm with vesicular nuclei.

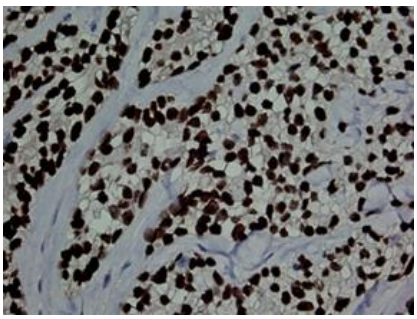

Figure 4: Sox10 nuclear positive

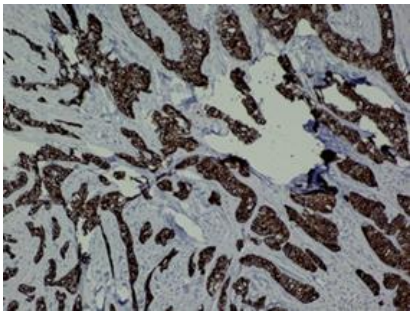

Figure 5: CK8/CK18 cytoplasmic positive

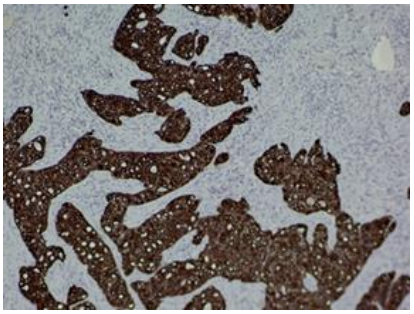

Figure 6: CK7 Cytoplasmic positive

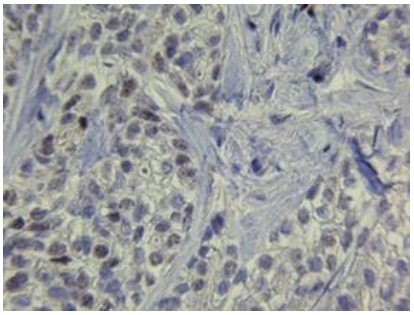

Figure 7: GATA3 weak nuclear positive