

Liquid-Based Cytology Diagnosis of a Metastatic Angiosarcoma in the Lymph Node: Cytological Features

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Introduction

Angiosarcoma is a soft tissue sarcoma of vascular origin that typically affects older guys' faces and scalps, with more than half of cases developing in the skin. In comparison to other sarcoma forms, cutaneous angiosarcoma has a higher rate of lymph node metastasis. Rarely aspirated and occasionally found on cytological samples, angiosarcomas. Without knowing the patient's medical history, evaluating a small needle aspiration from a metastatic angiosarcoma presents a diagnostic hurdle. We present a case of cervical lymphadenopathy and erythroderma 20 months following a diagnosis of scalp angiosarcoma. An FNA of the cervical node demonstrated hem phagocytosis, the development of an intracytoplasmic lumen or vacuole, endothelial wrapping, and cell grabbing as examples of vasoformative characteristics [1].

Description

Angiosarcoma, which makes up between 2 and 4% of soft tissue sarcomas, is a vascular soft tissue sarcoma with aggressive clinical characteristics. More than half of cases start in the skin, with the remaining cases starting in deep soft tissues, the breast, the bone, or the viscera. Older boys' faces and scalps are the primary sites of cutaneous angiosarcoma, which has an aggressive local course, a difficult time being entirely removed, and a poor prognosis because of the high risk of metastasis. Additionally, compared to other sarcoma types, there is a larger likelihood of lymph node metastases occurring. Rarely can fine needle aspiration samples of malignancies that closely resemble other cancers reveal metastatic angiosarcoma [2].

Atypical epithelioid cells with cytomorphology judged odd for a metastatic cancer were discovered in the current case by FNA cytology. It is necessary to do ancillary research to identify the type of tumor and its potential source. We can simply carry out a large panel of immunohistochemistry on biopsy samples for a wide range of differential diagnosis. Cell block sections and other cytology specimens, however, may be few, as they were in our instance. We discovered from the patient's past records that he had been diagnosed with cutaneous epithelioid angiosarcoma 20 months prior and had only had local radiation. Using FNA cytology and a small panel of immunohistochemistry with cell block section, it was determined that the illness was progressing with nodal metastases based on the current clinical manifestation of erythroderma and cervical lymphadenopathy [3].

Soft tissue sarcomas rarely develop lymph node metastases. The literature contains a wide range of reported incidences of lymph node metastasis. Recent research on surveillance, epidemiology, and the results database revealed widespread lymph node metastases. Rhabdomyosarcoma, angiosarcoma, and sarcoma NOS were the top three most prevalent subtypes that showed lymph node metastases. Incidence data for all sarcoma patients from the National Cancer Data Base was reported by Keung et al. The highest rates of lymph node metastasis were discovered in angiosarcoma, epithelioid, clear cell, and small

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cell sarcoma. According to two significant case series, the frequency of lymph node metastasis from angiosarcoma is less frequent [4].

Therefore, they recommended that for patients with scalp angiosarcoma, the initial curative surgery should involve the preventive examination of regional lymph nodes for pathologic nodal staging, prognosis estimation, and the choice of systemic treatment. Even for metastatic sarcoma, FNA cytology is a very helpful diagnostic tool for detecting metastases. There haven't been many studies that show how well lymph node FNA can diagnose metastatic sarcoma. FNA samples have, however, infrequently contained metastatic sarcoma. For this reason, particularly in paucicellular smears like the ones in our case, lymph node aspirates should be carefully examined for unusual cells [5,6].

Conclusion

Less than 100 cases of angiosarcoma have been described on FNA cytology in the English literature, making it a rare tumor. They discovered that solitary cancer cells followed by aberrant mitoses were the most prevalent. Poorly differentiated cancer is a diagnostic trap because of the latter characteristic. Additionally, it was discovered that three-dimensional clusters were typical. The cytological characteristics that set this preparation apart from others were highlighted: a clear background, a lack of hyperchromatic nuclei, peculiarly shaped intracytoplasmic vacuoles, juxtenuclear condensation, and perinuclear clearing. In our example, the LBC preparation with Sure Path removed the bloody background of conventional preparation, allowing for easier identification of hem phagocytosis, endothelial wrapping, and cytoplasmic lumina/vacuoles. Background information and cytomorphological specifics may be impacted by different preparation techniques. Compared to the traditional preparation for cytological examination, standard fixation and preparation in LBC may provide better, fixed tumor cells and a clean backdrop, making it simpler to recognize the vasoformative features.

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Conflict of Interest

There are no conflicts of interest by author.

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