Epithelioid sarcoma: A diagnostic challenge

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ABSTRACT

Epithelioid sarcoma is an uncommon slow-growing soft tissue malignancy, associated with a high incidence of local recurrence and metastasis. We report a 26-year-old male with epithelioid sarcoma on the right palm with a long history of over seven years, which was initially misdiagnosed as cutaneous tuberculosis and epithelioid hemangioendothelioma, as a result of which the treatment was delayed. No metastasis was found in our patient. The patient was referred to the oncology centre where he underwent wide excision of the lesion followed by radiotherapy. The review of the literature including clinical and histological differential diagnosis is presented as it mimics inflammatory, benign tumors as well as other malignant conditions.

Key Words: Epithelioid sarcoma, Soft tissue sarcoma

INTRODUCTION

Epithelioid sarcoma is an uncommon soft tissue tumor that occurs almost exclusively in the distal part of an extremity. The tumor is remarkable for the diagnostic difficulties it poses, both clinically and histologically, resulting in a high frequency of initial misdiagnosis.

CASE REPORT

A 26-year-old male presented with swelling over his right palm. His complaints started seven years ago as a small swelling, which slowly progressed in size and even ulcerated at places. He noticed the swelling a few months after an injury which was sustained on the hand when he fell over a stone. He had consulted his local doctor a year ago, who had given him treatment for cutaneous tuberculosis after histopathologic confirmation. He showed no improvement with treatment.

On clinical examination, he was moderately built and in good general health. There was an erythematous nodule on the right palm measuring 2.0 x 1.0 cm, with ulceration and scarring [Figure 1]. The ulcer was irregular with punched out and raised edges. The base was firm and the floor was covered with granulation tissue. There was no fixation to the deeper tissues. X-ray of the hand revealed no bony involvement.

A biopsy from the nodule revealed a tumor in the dermis composed of diffuse sheets of epithelioid and spindle-shaped tumor cells. A few tumor cells exhibited formation of intracytoplasmic lumina. The neoplasm was highly vascular and perivascular lymphoid aggregates were seen. Two to three mitoses were seen per 10 high power fields. A diagnosis of

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epitheloid hemangioendotheliomia was made and complete excision of the lesion was advised.

A wider excision was performed. The specimen consisted of skin-covered elliptical tissue measuring 2.5 x 1.5 cm. Surface showed ulceration. Cut section showed irregular gray-white areas infiltrating up to the base. The resected margins were painted with India ink.

On microscopic examination, there was a tumor in the dermis with a distinct multinodular arrangement [Figure 2]. Some of the nodules showed central areas of necrosis, degeneration and hemorrhage. Tumor extended to the epidermis causing ulceration. The tumor had biphasic population of both epithelioid and spindle-shaped tumor cells [Figure 3]. Lymphoid aggregates were seen between tumor nodules. Focal areas of calcification were seen as also 8-9 mitosis / 10 high power fields. The base of the resected margin was involved by the tumor. A diagnosis of epithelioid sarcoma was made. The patient was referred to the Oncology Centre for further management, where he underwent wide excision followed by radiotherapy. No regional or distant metastasis was found. No local recurrence has been observed after one year of undergoing wide excision.

DISCUSSION

Epithelioid sarcoma as a distinct entity was first described by Enzinger in 1970.[1] It is a rare high-grade soft tissue sarcoma with a known propensity for local recurrence. It accounts for less than 1% of soft tissue tumors.[2] The tumor poses a diagnostic difficulty and is often misdiagnosed as a benign condition or another malignant process.

The presentation is typically as a subcutaneous or deep dermal lesion in the distal portion of the upper extremities in young adults, but the tumor may also occur in the lower extremities and occasionally in the trunk or head and neck region.[3] Epithelioid sarcoma has a tendency to spread locally by way of lymphatics or along fascial planes and may give rise to multiple local nodules. Superficial tumors often ulcerate. Diagnosis is made by typical histological features of

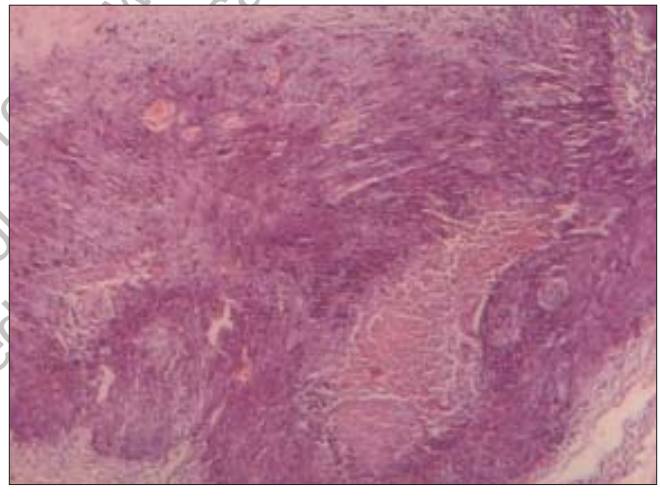

Figure 2: Tumor mass in the dermis with central necrosis (H and E, x100)

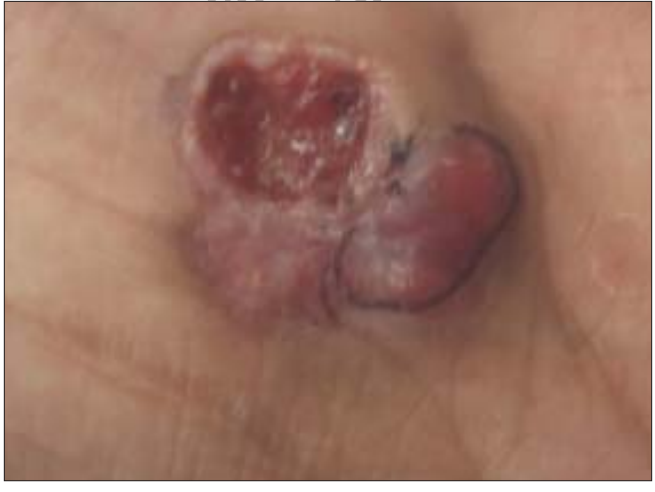

Figure 1: Palm showing erythematous nodule, ulcer and scarring

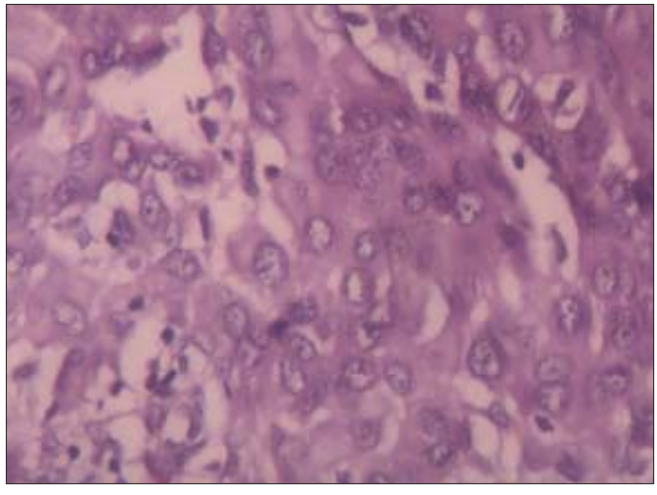

Figure 3: Epithelioid tumor cells and high mitosis (H and E, x400)

distinct nodular aggregates of epithelioid and spindle cells with zonal necrosis. It exhibits immunohistochemical reactivity for epithelial markers—keratins and epithelial membrane antigen, and for mesenchymal markers—most notably vimentin and CD34.[4] Our case had the tumor for a long duration of seven years before the correct diagnosis was made.

Epitheloid sarcoma is often misinterpreted on histopathology and misdiagnosed as granulomatous disease, wart, synovial carcinoma, ulcerating squamous cell carcinoma, amelanotic melanoma, clear cell sarcoma and epithelioid hemangioendothelioma.[1,5-7] However, in epithelioid sarcoma, the epithelioid cells in the lesions are more sharply defined than in granulomas and the epithelioid cells are larger, more eosinophilic and less mature in nature.[6] Epithelioid sarcoma can be differentiated from synovial sarcoma by the absence of pseudoglandular structures and tendency to ulcerate. Absence of keratin pearls and dyskeratosis in the adjacent epithelium helps its differentiation from squamous cell carcinoma. Epithelioid hemangioendothelioma is a low-grade vascular neoplasm which can mimic epithelioid sarcoma and can be excluded by the absence of necrosis and low mitosis.[7] The present case was misdiagnosed as cutaneous tuberculosis elsewhere and the superficial biopsy of the lesion in our hospital was reported as epithelioid hemangioendothelioma. Diagnosis of epithelioid sarcoma was however established by a deeper biopsy because of its typical histopathological features. Immunohistochemical staining could not be done due to resource constraints.

Prognosis is dependent on the depth of the tumor in relation to the deep fascia, local recurrence and regional lymph node involvement. The size of the primary lesion is not a reliable indicator of prognosis, but smaller tumors are associated with significantly better distant metastasis-free interval.[8] Distal limb tumors have been reported to have better prognosis than the proximal limb and axial tumors. The present case did not show local spread or involvement of regional lymph nodes.

A local recurrence rate of 35%,[8] 69%[2] and 77%[5] has been reported in the literature. Epitheloid sarcoma has a tendency to be multifocal at recurrence. The frequency of regional lymph node metastasis is typically between 22 and 45%. Distant metastatic disease has been reported in up to 45% of patients with epithelioid sarcoma.[1,2] The metastasis is usually to the lung and pleura.[8] No distant metastasis was detected in our patient at the referred oncology centre.

The treatment of primary disease is wide local excision, followed by adjuvant radiotherapy, in an attempt to lower the risk of local recurrence. Though amputation is required relatively frequently in epithelioid sarcoma because of the tendency of multifocal disease, there is no survival advantage from primary amputation. Chemotherapy is recommended for metastatic disease, with a standard regimen, which typically includes ifosfamide or doxorubicin, sometimes in combination. Our patient underwent wide excision of the lesion followed by radiotherapy and is free of the disease one year after the diagnosis.

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