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Case Report

CASE REPORT

Poroid hidradenoma of the scalp in an immunosuppressed patient

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Abstract

We discuss the rare finding of what initially presented as a common subcutaneous scalp nodule. Yet, after surgical excision, the lesion was found to be a poroid hidradenoma (PH). PH is a rare variant of poroid neoplasms. PH, when observed, is commonly associated with the head and neck. However, it is rarely described in literature beyond the dermatopathologic findings. Here, we describe the clinical presentation of a unique case of a scalp PH in the setting of immunosuppression.

INTRODUCTION

Poroid neoplasms encompass several sub-types of tumors: poromas, hidroacanthoma simplex, dermal duct tumor, and hidradenoma[1]. These neoplasms arise from eccrine cells, typically as an asymptomatic skin or soft tissue lesion. Although there are distinct sub-types, there is a fair degree of overlap and composite histology. Since the neoplasms arise from eccrine cells, they are entirely contained within the dermis. The risk of malignancy is extremely low in these lesions. However, surgical excision is recommended to prevent growth and/or recurrence.[2]

There are very few of these cases reported in the literature. The largest case series reports fifty-six poroid hidradenomas, focusing mainly on the histologic findings. We present a scalp nodule, ultimately found to be a PH.

CASE REPORT

The patient is a 66-year-old African-American female with complex past medical history pertinent for renal failure on hemodialysis, hypertension, heart failure, and hepatitis C requiring previous liver transplantation. She had several hospitalizations for hypertension and pulmonary edema. She was maintained on carvedilol and nifedipine for hypertension, as well tacrolimus for her liver transplantation immunosuppression. Regarding her hypertension, her systolic blood pressures were consistently 180–190 mmHg. Her social history was pertinent for ongoing tobacco use, with an approximately fifty pack-year smoking history.

The patient was evaluated for a scalp lesion. This nodule was problematic for her as it caused discomfort when she brushed her hair. She denied ever noting drainage, bleeding, or spontaneous pain in the area. On exam, the nodule was located on the superior-most portion of her scalp and approximately 1.5 cm in size. It was mobile, firm, and non-tender. Due to the nature of the nodule, it was believed to be a lipoma or a sebaceous cyst. As this nodule was problematic for her, she elected to pursue excision. Surgical consent was obtained.

The day of surgery, her systolic blood pressure was elevated to 190 mmHg. After several hours of pharmacologic intervention, her systolic blood pressure was able to be brought down to the 160 mmHg range, and she was taken to the operating room. Given her hypertension and complex medical history

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pertinent for persistent pulmonary edema, her excision was performed under local anesthesia.

The patient was placed on the operating table in supine position. Clindamycin was given within half hour of skin incision. The lesion appeared to have a small umbilicated area, raising the suspicion that the lesion was actually a sebaceous cyst. After infusion of local anesthetic, an elliptical incision was made in a transverse fashion over the lesion. Sharp dissection was used to encircle the lesion which was approximately two centimeters by two centimeters in size. The lesion was excised in its entirety without breaking the capsule. The specimen was placed in formalin and sent to the pathology lab.

The wound bed oozed blood diffusely given the patient's end-stage renal disease, hypertension, and the location of the lesion. Hemostasis was obtained using a small patch of hemostatic product and electrosurgical energy. The deep dermal layer was closed with interrupted 3–0 absorbable braided sutures. The subcuticular layer was closed with 4-0 monofilament absorbable suture. A high viscosity tissue adhesive was applied to the skin.

Grossly, the specimen was a 2.4 × 1.1 × 1.2 cm tan-pink, hair-bearing skin ellipse with attached soft tissue. It consisted of a cystic cavity filled with a yellow to clear gelatinous material.

Histologically, there was a well-circumscribed neoplasm composed of a proliferation of monomorphous basaloid and squamous epithelial cells arranged around ducts and cystic spaces. There was a fibrovascular myxoid stroma and there were areas of necrosis en mass. Final pathologic interpretation revealed a poroid hidradenoma.

DISCUSSION

This case report of a PH documents a rare finding in a medically complicated patient. These tumors derive from eccrine glands, and the PH variant are encompassed entirely within the dermis[1]. This patient's presentation demonstrates the difficulty in diagnosing this type of lesion, as it was suspected to be a lipoma or sebaceous cyst. If a partial excision or lancing is performed (as is sometimes performed for a lipoma or sebaceous cyst, respectively), these lesions are at high risk of recurrence[3]. Thus, we recommend a more substantive and complete excision to remove skin and surrounding soft tissue.

Although not performed for this lesion, ultrasound of the nodule could be performed if there is concern for a more complex lesion. As opposed to a more homogeneous architecture of a lipoma, these poroid neoplasms would demonstrate solid and cystic components. This is illustrated histologically with multiple ducts, cystic spaces, and fibrovascular stroma.

There has been no documented association of immunosuppression and occurrence of PH. However, there is one documented case of occurrence after a hematopoietic stem cell transplantation[4]. This patient's use of tacrolimus after liver transplantation raises a unique question of the possibility of increased incidence with immunosuppression, as well as concern for possible transformation to a malignant lesion.

This unique pathology has been rarely reported in the literature. We hope to raise suspicion of its occurrence. If the nodule appears cystic on physical exam or ultrasound, surgeons ought to abandon skin sparing excisions and perform a complete soft tissue resection with a high index of suspicion in the immunosuppressed patient.

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CONFLICT OF INTEREST STATEMENT

None declared.

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