Clear Cell Acanthoma: A Clinical, Dermatoscopic, and Histological Review.

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Abstract

Clear cell acanthoma (CCA) is an uncommon benign epidermal tumor, presenting as an erythematous solitary papule with a peripheral scale, usually on the lower extremity. Although biopsy is commonly performed for diagnosis, dermatologists may suspect a CCA with the use of clinical and dermatoscopic findings. We present our case of a suspected clear cell acanthoma confirmed by biopsy along with a clinical, dermatoscopic and histological review.

Clinical Findings

CCAs are generally solitary, asymptomatic, red or brown dome shaped papules or nodules. They may be covered by scaled edges or have a moist appearance. The size of the lesion can range from approximately 3-20mm and can slowly grow for up to 10 years. When closely examining the surface of the lesion, vascular puncta are present, which easily bleed following minor trauma. These lesions are usually found on the lower extremities in middle aged to elderly adults, males and females alike [3-6]. Although this description is the most common presentation, there are a variety of clear cell acanthoma types creating a large list of differential diagnosis. These types include: giant, polypoid, pigmented, eruptive, atypical and cystic [9].

Histopathology

Typically, CCAs are characterized by well demarcated epidermal hyperplasia and basal cells full of a glycogen-rich cytoplasm positive to periodic-acid-Schiff staining. An abundance of densely packed dilated capillaries are seen in a well-demarcated distribution, which correlate with the dermatoscopic vascular features or red dots and globules outlined above. Parakeratosis, neutrophilic exocytosis and mild spongiosis are also present (Images 3 and 4) [3,6].

Management and Therapy

Management of CCA is excisional removal of a solitary lesion. This can be done through a variety of methods including, but not limited to, standard surgical excision, Mohs micrographic surgery, cryotherapy, electrolfulguration, curettage or carbon dioxide laser. For cases of multiple or larger size lesions, cryotherapy and carbon dioxide laser have been successfully used [6]. In addition, with the theorized inflammatory reactive cause, a case report showed the regression of CCA after a two month trial of calcipotriol [4]. In the case of our patient, shave excision combined with electrofulguration was used for diagnosis and treatment.

Conclusion

CCAs have a large differential including many lesions that are less benign and which occur with much higher frequencies in the population. Under these conditions, the diagnosis of a CCA is usually one that is made histologically, after a biopsy has been performed. Since the features of this lesion are dermatoscopically distinct, this may afford the clinician more diagnostic confidence. The use of routine dermatoscopy may therefore lessen biopsy rates of this benign dermatologic entity.

BIBLIOGRAPHY


Synopsis

CCA is a benign lesion that is oftentimes difficult to diagnose with clinical observation alone. CCA shares clinical features which overlap with a variety of other lesions, making the dermatological differential diagnosis extremely broad. CCA, however, has unique dermatoscopic characteristics which make it distinct from other entities. The use of dermatoscopy can thus strengthen the diagnostic suspicion of CCA.

Case Report

A 68-year-old white female presents to our outpatient clinic for a full body skin exam. Her past medical history is significant only for chronic obstructive pulmonary disease. She denies personal or family history of skin cancer. Physical exam subsequently reveals a sharply demarcated 0.3x0.3 cm shiny, pink, moist, blanchable papule with a collarette scale located on the left anterior distal shin in conjunction with varicosed veins (Image 1). Dermatoscopic evaluation showed dotted vessels arranged in a linear “string of pearls” distribution, revealing the characteristic dermatoscopic morphocpittern seen in clear cell acanthoma (CCA) [Image 2] [1,2].

Discussion

CCA is a diagnosis that can be suspected clinically, but does have a large differential diagnosis base. Due to this and the fact that it occurs rarely, misdiagnosis is not unusual. Dermatoscopically, however, this lesion has very unique and specific features, which greatly improves diagnostic accuracy. The dermatoscopic features show a stereotypical vascular pattern composed of dotted vessels distributed linearly like a string of pearls.

Differential Diagnosis

CCA has a vast differential diagnosis which includes accinic keratosis, lichenoid keratoses, pyogenic granulomas, dermatofibromas, basal cell carcinomas, squamous cell carcinomas, infiltrated seborrheic keratoses, acrodermatitis, clear cell hyalosis, enulcidal hidradenomas, and porocarcinoma. When considering nonpigmented skin lesions such as these, dermatoscopic morphocpitterns are often helpful in making a correct diagnosis [1]. Among those with a similar differential base, clear cell acanthomas are unique in their dermatoscopic distribution of dotted or globular vessels, arranged in a circinare pattern.