Carcinoma Cuniculatum: Usefulness of Radiological Assessment

Nicola di Meo, Giuseppe Stinco[1], Katiuscia Nan, Ferruccio Degrassi[2], Maria Assunta Cova[2], Giusto Trevisan

From the Departments of Dermatology and Venereology and [2]Radiology, University of Trieste, Trieste, [1]Department of Experimental and Clinical Medicine, Institute of Dermatology, University of Udine, Udine, Italy.
E-mail: katiuscia.nan@gmail.com

Indian J Dermatol 2016:61(1):123

Sir,

Verrucous carcinoma is a rarely occurring, low-grade variant of squamous cell carcinoma, slow-growing verrucous and with minimal dysplasia.[1] The incidence of epithelioma cuniculatum is unknown, with a predominance for men in their fifth–sixth decades.[2] It occurs most commonly on the ball of the sole (53%), followed by the toes (21%) and heel (16%).[3] The three major locations of verrucous carcinoma are the oral cavity (oral florid papillomatosis), the anogenital region (giant condyloma of Buschke and Lowenstein); when verrucous carcinoma involves the plantar surface of the foot, it is named carcinoma cuniculatum (CC). Metastasis from CC is rare, although it can invade deep into the soft tissues and can extend to tendons, muscles, or bone.[1,4] We report a case of a 67-year-old healthy man with 10 years history of enlarging cauliflower-like lesion of his right heel, initially diagnosed and treated as a wart. During the years, the lesion has grown progressively despite treatment until becoming a deeply penetrating mass, 6 cm × 5 cm × 3 cm, with an exophytic and hyperkeratotic component [Figure 1a]. Histopathologic examination showed hyperkeratinized epithelium, acanthosis, parakeratosis with keratin-filled cores, and crypts often contained keratin-rich neutrophil microabscesses, with a characteristic burrowing pattern; blunt papillary projections of well-differentiated epithelium, little atypia, with nonreactive edematous stroma [Figure 1e]. The histopathological diagnosis was CC. Surgical intervention is the treatment of choice for CC, with a 5-mm tumor-free margin so that early detection may result in a smaller surgical defect.[2] If the tumor causes deep bone invasion, amputation might be warranted.[2] Computed tomography (CT) is superior to any other imaging technology to assess a bone involvement, particularly when minimal changes in the cortical bone and periosteal reaction are involved, due to its excellent spatial resolution and high specificity.[4] In our patient, a solid enhancing exophytic lesion at cutaneous localization was well evident in the plantar region [Figure 1c and d], with partially deep extension

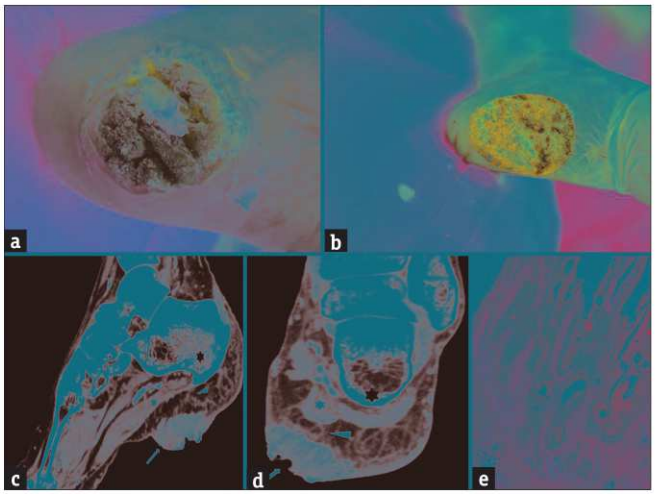

Figure 1: (a) Deeply penetrating mass, 6 cm × 5 cm × 3 cm, with an exophytic and hyperkeratotic component. (b) surgical intervention. (c) contrast-enhanced computed tomography sagittal plane. (d) contrast-enhanced computed tomography coronal plane. A solid enhancing lesion (arrow) is evident at cutaneous localization in the plantar region with a partially deep extension in the subcutaneous adipose tissue. There is neither invasion of the plantar aponeurosis (white star) nor of the calcaneus bone (black star). (e) histopathologic examination (H and E, ×40)

in the subcutaneous adipose tissue. CT did not show any deep invasion affecting the plantar aponeurosis and calcaneus bone with an evident cleavage plane represented by adipose tissue. In the subcutaneous adipose tissue, near the lesion, there were several hyperdense strands [Figure 1c and d arrowhead], which were not infiltrative aspects of the tumor, but rather vascular structures. A wide excision and reconstruction with successful, full-thickness skin grafting were performed [Figure 1b]. After the treatment, the patient follow-up is required, as recurrence of CC has been reported despite clear histological resection margins.[3] CT is superior to magnetic resonance imaging (MRI) in determining incipient bone invasion.[4,5] MRI can discriminate better between different types of soft tissue pathology than CT, but not so precisely an early bone invasion. In other words, it delineates the depth of involvement of tumor but does not influence the final choice of surgical procedure in an early stage of invasion. CT can show early, typical signs of an aggressive tumor, as radiolucent lesions with ill-defined margins and resorption of the adjacent cortical bone.[4] Hence, it is crucial to evaluate the evidence of possible bone involvement on imaging with CT for a correct surgical approach in all CC with a high risk of bone and periosteal tissues invasion.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

References

1. Penera KE, Manji KA, Craig AB, Grootegoed RA, Leaming TR, Wirth GA. Atypical presentation of verrucous carcinoma: A case study and review of the literature. Foot Ankle Spec 2013;6:318-22.
2. Thomas EJ, Graves NC, Meritt SM. Carcinoma cuniculatum: An atypical presentation in the foot. J Foot Ankle Surg 2014;53:356-9.
3. Rinker MH, Fenske NA, Scalf LA, Glass LF. Histologic variants of squamous cell carcinoma of the skin. Cancer Control 2001;8:354-63.
4. García-Gavín J, González-Vilas D, Rodríguez-Pazos L, Sánchez-Aguilar D, Toribio J. Verrucous carcinoma of the foot affecting the bone: Utility of the computed tomography scanner. Dermatol Online J 2010;16:8.
5. Pempinello C, Bova A, Pempinello R, Luise R, Iannaci G. Verrucous carcinoma of the foot with bone invasion: A case report. Case Rep Oncol Med 2013;2013:135307.

Access this article online

Quick Response Code:

Website: www.e-ijd.org

DOI: 10.4103/0019-5154.174144

How to cite this article: di Meo N, Stinco G, Nan K, Degrassi F, Cova MA, Trevisan G. Carcinoma cuniculatum: Usefulness of radiological assessment. Indian J Dermatol 2016;61:123.

Received: August, 2015. **Accepted:** October, 2015.