Claw foot
A case report

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A cutaneous horn could be defined as a conical projection on the surface of skin made of cornified material and resembling an animal horn. These lesions most commonly affect light-skinned men aged between 50 to 89 years and usually appear in sun exposed areas. Radiation, chronic irritation and even human papilloma virus-2 infection may be precipitating factors. More than half of the cases originate from either malignant or premalignant lesions, therefore the base of the lesion must be carefully examined histologically. Long standing presence of the lesion, conspicuous protrusion of the horn and pain are positive predictive factors for malignancy and invasivity. In these cases an invasive surgical approach is needed.

KEY WORDS: Basal cell carcinoma, Cancer, Clow foot, Non melanoma skin cancer, Skin cancer

Case Report

A 27 year-old Turkish man presented to our outpatient clinic with a history of large painful cutaneous lesion protruding from his left foot that had prevented him from walking or tolerating any type of footwear. The patient referred the presence of the lesion for 7 years. The lesion had progressively grown over time. Due to his poor social background and language barrier, past and personal medical history were incomplete and fragmentary. Clinical examination revealed the presence of a large cutaneous horn located in the lateral surface of the fifth metatarsal-phalangeal joint of the left foot (Fig. 1). The hyperkeratotic conical mass was grayish-black and curved shaped, reminding a claw. It measured 5,5 cm in width at the base by 9,5 cm in length. Upon palpation, its consistence was very hard and its base of implant was firmly fixed to the fifth phalanx. No history of ulceration or bleeding was referred. No loco-regional lymphadenopathy was observed and no other lesions on skin or mucosa were reported during general examination. Routine blood examinations electrocardiogram, and chest radiography were normal. Computed tomography scan of the left foot showed the presence of a solid calcified formation pointing outwards from the head of the fifth metatarsal up to the distal third of the proximal phalanx, over 5 cm. The base of the lesion was strictly adherent to the cortical part of the bone structure without any evident signs of erosion, as showed in the 3D model (Fig. 2). The patient underwent to surgery, during which the lesion was removed en bloc with the fifth metatarsal. After the osteotomy, the remaining stump of the fifth metatarsal was covered with a local muscle flap, harvesting the extensor muscle of the fifth toe. The cutaneous gap was repaired advancing a plantar flap moved onto the mid line of the lateral surface of the left foot.

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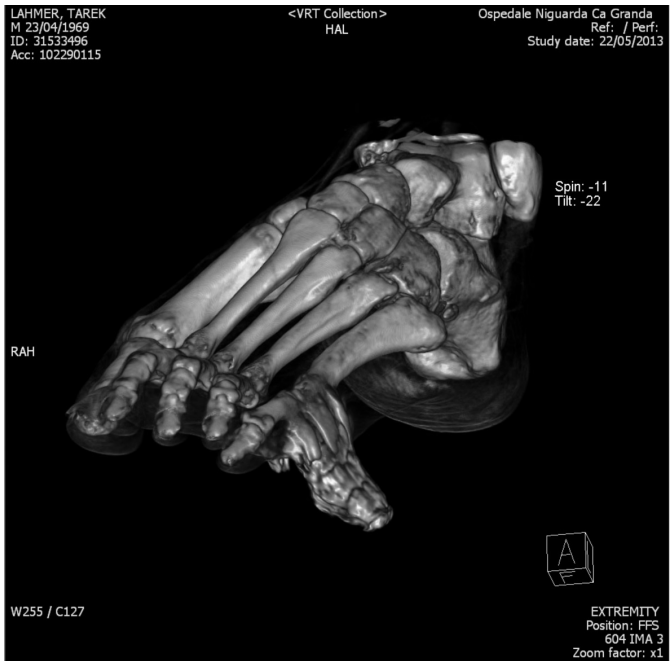

Fig. 1: The large painful cutaneous horn 5,5 cm in width and 9,5 cm in length, protruding from the left foot.

Fig. 2: Computed tomography scan, 3D model: the solid calcified formation pointed outwards from the head of the fifth metatarsal phalanx, strictly adherents to the cortical part of the bone structure.

The specimen showed the excised bone fragment 7,5 in length, attached to the horn measuring 9,5 cm in length and 5,5 in diameter at the base of the implant. The hystopathological diagnosis reported squamous cell carcinoma. The total body computed tomography showed no evidence of secondary lesions. At the follow-up the surgical wound had healed uneventfully and the pain had disappeared. Few days after surgery, the patient started walking again with the help of a crutch.

Discussion

A cutaneous horn could be defined as a conical projection on the surface of skin made of cornified material and resembling an animal horn. The first case was reported in London in 1588, but only in the eighteenth century it was reckoned as a medical disorder [1-7]. Cutaneous horns are rare but their real incidence or prevalence has yet to be reported. Light-skinned men aged between 50 to 89 years are the most affected group, nonetheless these lesions have been reported to occur at any age [2]. No gender predilection has been proved; however a study shows the possibility of harboring malignancy is increased in men when compared with age-matched women [3]. Usually cutaneous horns appear in sun-exposed areas, such as face and scalp; their presence on sun-protected areas, as in our case, seldom occurs.[4] Still the pathogenesis of these lesions remain not completely known, radiation, chronic irritation and even human papilloma virus-2 infection may be precipitating factors [2,4,5]. Though clinical manifestation always show a horn, to achieve the diagnosis, the base of the lesion must be carefully examined histologically. The main differential diagnosis range is between *benign lesions,* such as viral warts, *premalignant lesions,* such as solar keratosis and Bowen's disease and *malignant lesions* especially squamous cell carcinoma. [6]. As reported in the literature, more than half of the cases originate from either malignant or premalignant lesions[4]. So even if cutaneous horns are usually characterized by a progressive and slow growth they could represent a very serious clinical manifestation requiring a drastic and more radical surgical treatment, as showed in this case. Such a large cutaneous horn on the patient's left foot with such a long history is extremely rare and of sure predictive of a high risk of malignancy and invasivity. The requirement of an invasive surgical approach, with excision of the fifth metatarsal of the left foot was mandatory to avoid a possible metastatic bone progression.

Conclusion

Cutaneous horn of the foot is an extremely rare condition. The long standing history and the size of the reported lesion advocated for an immediate radical approach to avoid a possible tumor progression over the time. Choosing the most appropriate reconstructive procedure is crucial to avoid wound dehiscence and enable rapid rehabilitation.

Riassunto

Gli Autori presentano il caso di un paziente di 27 anni, nazionalità turca, che presenta una neoformazione cutanea esofitica del piede, presente da circa 7 anni, fortemente dolorosa. L'esame clinico ha rivelato la presenza di una grande corno cutaneo trova nella superficie laterale del quinto metatarso-falangea del piede sinistro. La lesione misurava 5,5 cm di larghezza alla base e 9,5 cm di lunghezza. Alla palpazione, la sua consistenza era molto dura e la sua base di impianto era saldamente adesa alla quinta falange. La tomografia computerizzata del piede sinistro ha mostrato la presenza di una solida formazione calcifica, a punta, orientata verso l'esterno dalla testa del quinto metatarso fino al terzo distale della falange prossimale. La base della lesione è strettamente aderente alla parte corticale della struttura ossea senza segni evidenti di erosione, come mostrato nel modello 3D. Il paziente ha subito un intervento chirurgico, in cui la lesione è stato rimossa in blocco con il quinto metatarso. Dopo l'osteotomia, il moncone rimanente del quinto metatarso è stato coperto con un lembo muscolare locale coinvolgente il muscolo estensore del quinto dito. Il divario cutaneo è stato riparato avanzando un lembo cutaneo plantare.
La diagnosi istopatologica ha riportato carcinoma a cellule squamose. Al follow-up la ferita chirurgica era guarita senza complicazioni e il dolore era scomparso.
Conclusione il corno cutaneo del piede è una condizione estremamente rara. La storia di lunga data e la dimensione della lesione riportata impongono un approccio radicale immediato per evitare una possibile progressione tumorale nel tempo. La scelta della procedura ricostruttiva più appropriata è fondamentale per evitare deiscenza della ferita e consentire una rapida riabilitazione.

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