

# Verrucous carcinoma of the hand: a rare presentation evaluated by magnetic resonance imaging\*

*Carcinoma verrucoso da mão: uma rara apresentação avaliada por ressonância magnética*

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**Abstract** Verrucous carcinoma is a variant of squamous cell carcinoma seen in mucous membranes and skin, and rarely found in the hand. The present report describes a case of two lesions on the dorsum of the hand, with no contact to each other, which underwent en-block resection and were confirmed as verrucous carcinoma.

**Keywords:** Verrucous; Carcinoma; Spiculated; Sea-urchin; Squamous; Hand.

**Resumo** O carcinoma verrucoso é uma variante do carcinoma de células escamosas, vista em mucosas e pele, raramente encontrada na mão. Nós relatamos um caso de duas lesões no dorso da mão, sem contato entre si, que foram ressecadas em bloco e confirmadas como carcinoma verrucoso.

**Unitermos:** Verrucoso; Carcinoma; Espiculado; Ouriço-do-mar; Escamoso; Mão.

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## INTRODUCTION

Verrucous carcinoma is a well differentiated variant of squamous cell carcinoma seen in the skin and mucosae and rarely found in the hand.

We report a case of two lesions on the dorsum of the hand, with no contact to each other, which underwent en-block resection and were confirmed as verrucous carcinoma. The largest lesion presented a sea-urchin-like exophytic growth pattern and

an enhancement pattern described at magnetic resonance imaging (MRI) as spiculated or “teased cotton wool”.

## CASE REPORT

A 24-year-old, male patient, agriculturist, presenting two exophytic lesion on the dorsum of his hand for one year, with a more expressive growth over the last two months. The patient also presented pain and a persistent difficulty in extending the interphalangeal joints of his fourth and fifth fingers for two weeks. The lesions had been empirically treated as probably fungal skin lesions, because of their insidious growth and based on the report, by the patient, of contact with soil during his working activi-

ties. As therapeutic success had not been achieved, biopsy was requested to guide a decision-making regarding a new therapeutic approach. The biopsy result was compatible with verrucous squamous cell carcinoma.

Hand MRI was requested for loco-regional staging of the tumor. At MRI, two skin lesions were visualized, with subcutaneous invasion, localized on the dorsum of the hand (Figure 1). The smallest lesion measured 2.0 cm, was superficial and restricted to the cutaneous and subcutaneous planes in the fourth metacarpal region. The largest one measured 3.0 cm and was located on the surface of the fifth metacarpal region, without infiltrating the extensor tendons of the fourth and fifth fingers

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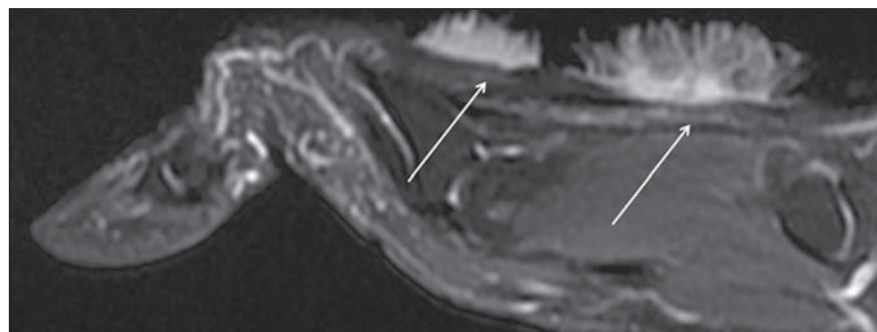
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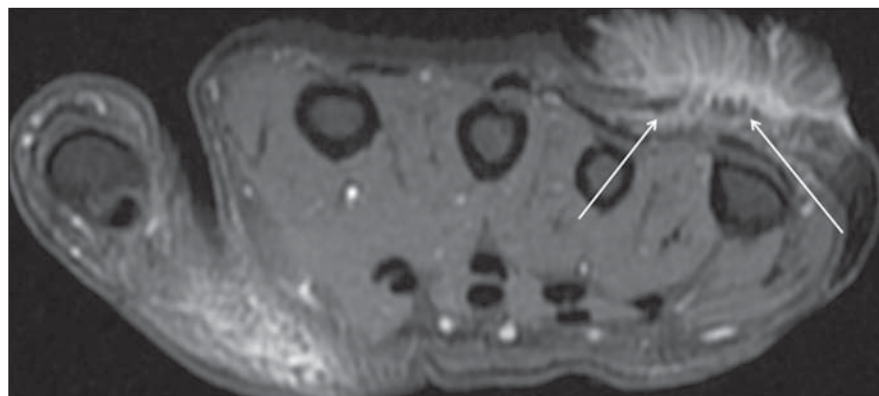
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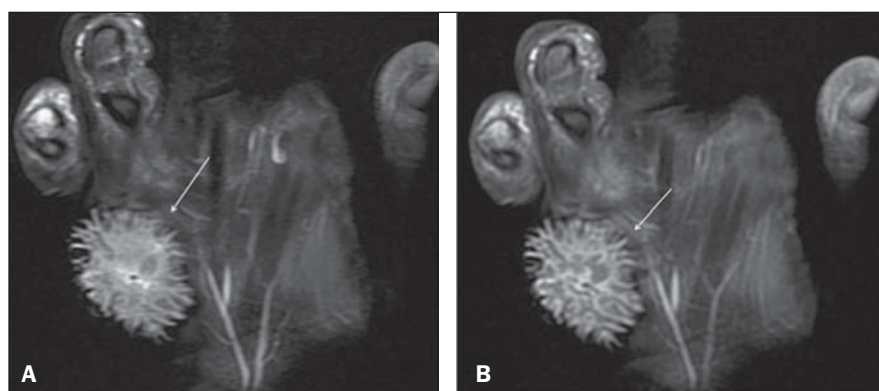
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**Figure 1.** Sagittal MRI post-gadolinium T1-weighted image with fat saturation demonstrates two contrast-enhanced superficial lesions (arrows) in the extensor tendons, with no contact to each other.



**Figure 2.** Axial MRI T2-weighted image with fat saturation demonstrates the largest, noninvasive lesion (arrows) in contact with the extensor tendons of the fourth and fifth fingers of the hand.



**Figure 3.** Coronal MRI T2-weighted (A) and T1-weighted, post-gadolinium fat saturated (B) images demonstrate a spiculated pattern (arrows) similar to a sea-urchin.

(Figure 2). Both lesions presented intermediate signal intensity on T1-weighted sequences, a spiculated pattern with high signal intensity on T2-weighted sequences (Figure 3A) and also a spiculated enhancement pattern on post-gadolinium T1-weighted sequences (Figure 3B). The external contours of the lesions resembled the shape of a sea-urchin.

Bone invasion and distant lesions were not observed. Both lesions underwent en-block resection in the next day following the MRI study, with free surgical margins.

## DISCUSSION

Verrucous carcinoma is an indolent variant of squamous cell carcinoma that is

the second most common type of skin cancer<sup>(1)</sup>. Verrucous carcinomas are not frequently seen on hands. As far as the authors are concerned, less than twenty cases have been reported up to the end of 2010. Much more frequently, verrucous carcinomas are seen on the feet (more than 90% of cases in the skin)<sup>(2)</sup>. The “verrucous” denomination is adopted because of the lesions’ similarity with viral warts<sup>(3)</sup>. The etiology of such condition is still to be completely understood. Immunosuppression and greater Sun exposure increase the risk for disease development. Also, there are indications of association with human papilloma virus infection<sup>(4,5)</sup>. Generally, verrucous carcinomas are single lesions; and cases of multiple lesions on the hand had

not been reported yet. Rarely, such lesions produce metastases, but they may present deep tissue invasion, which is related to relapse<sup>(3)</sup>. Although extensor tendons invasion has not been observed in the present case, the observed perilesional edema might be implicated in the difficulty to extend the fingers and in the presence of pain.

The spiculated enhancement pattern on post-gadolinium T1-weighted sequences had already been described<sup>(6)</sup>, which is also confirmed on T2-weighted images. Wasserman et al.<sup>(7)</sup> have reported that such image pattern resembled “teased cotton wool” and would be a result from inflammatory infiltrate as a response to the stromal tissue of the tumor.

What the present report emphasizes is a particular tumor presentation, with typical MRI findings and location which are useful in the development of the diagnostic rationale. However, the main role of the radiologist is still in the locoregional staging of the disease.

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