

Spontaneous involution of keratoacanthoma, iconographic documentation and similarity with volcanoes of nature *

Ceratoacantoma de involução espontânea, documentação iconográfica e semelhança com vulcões da natureza

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Abstract: Through iconography, we show a case of keratoacanthoma (KA) on the nasal dorsum at two different stages of evolution (maturation and regression) and its similarity with images of the Mount St. Helens volcano and the Orcus Patera crater. Using these illustrations, we highlight why the crateriform aspect of this tumor is included in its classic clinical description. Moreover, we photographically documented the self-involuting tendency of KA, an aspect that is seldom documented in the literature

Keywords: Carcinoma, squamous cell; Keratoacanthoma; Neoplasms

Resumo: Mediante iconografia, mostramos o caso de um ceratoacantoma (CA) de dorso nasal em duas fases diferentes de evolução (maturação e regressão) e sua semelhança com as imagens do vulcão Monte Santa Helena e da cratera Orcus Patera. Por meio dessas ilustrações, destacamos por que o aspecto crateriforme foi acrescentado à descrição clínica clássica desse tipo de tumor. Além disso, documentamos fotograficamente a tendência autoinvolutiva do CA, o que não se encontra muito documentado na literatura

Palavras-chave: Carcinoma de células escamosas; Ceratoacantoma; Neoplasias

Keratoacanthoma (KA) is a benign proliferative epithelial lesion. It is clinically and histologically similar to squamous cell carcinoma (SCC). KA is considered a rare neoplasm, which is mainly observed in both male and female patients over the age of 50. Exposure to ultraviolet radiation, exposure to chemical carcinogens, and local trauma have been implicated in its pathogenesis.

The classic clinical form develops in three stages: the first, proliferative and rapid growth; the second, maturation, in which it acquires the characteristic crateriform shape; and finally, the third stage, involution with necrosis and scarring.

Although a histological examination is essential to confirm a diagnosis of KA, differentiating KA from SCC is often difficult. Even in immunohistochemical analysis, in which KA is compared with well-differentiated SCC lesions, similar levels of PCNA and p53 expression have been observed. ¹ Some cancer physicians state that KA should be considered a subtype of SCC until reliable markers that clearly differentiate between both types of lesions are identified. ²

Thus, although spontaneous regression is part of the natural evolution of this tumor, surgical removal is the recommended treatment. ³ It offers better cosmetic results, shortens the time of disease evolution and permits a complete analysis of the lesion to

exclude SCC. However, surgical removal does not allow us to observe the natural evolution of the lesions diagnosed as KA. ² Other therapeutic options include: curettage and electrocoagulation, radiotherapy, cryotherapy, laser therapy, and intralesional treatment with corticoids, such as 5-fluorouracil, methotrexate, and bleomycin.

We present the case of a 50-year-old male patient who presented with a KA lesion on his nasal dorsum, which grew rapidly over a 2-month period and self-involved after undergoing a biopsy that confirmed the diagnosis. In addition, this is one of the few cases in the literature in which this behavior was photographically documented. ⁴ We, therefore, used this opportunity to compare the tumor with two formations found in nature. ⁵

In figure 1, we show the lesion, whose crateriform appearance, with elevated borders and ulcerated center, is very similar to the Mount St. Helens volcanic crater (Figure 2). The Mount St. Helens volcano is located in the state of Washington, USA (46° 12' 0" N, 122° 11' 21" W), at 2,550 meters above sea level (Aerial view captured in June 2007 by photographer Matt Logan).

In figure 3, we show the appearance of the same lesion one year later, after spontaneous involution. We compare the appearance of this discrete atrophic scar to a naturally occurring environmental

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Figure 1: Tumor on the nasal dorsum, 1 cm in diameter. Elevated border, ulcerated center



Figure 3: Scar with slightly elevated, well-demarcated borders. Surface with atrophic appearance

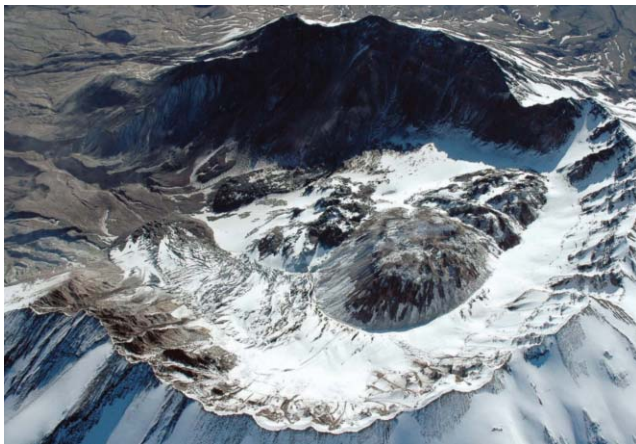


Figure 2: Aerial view of the west side of the crater and dome of Mount St. Helens (city, country)

Photograph taken in June 2007 by Matt Logan
Credit: U.S. Geological Survey / Department of the Interior/USGS / U.S. Geological Survey/photo by Matt Logan

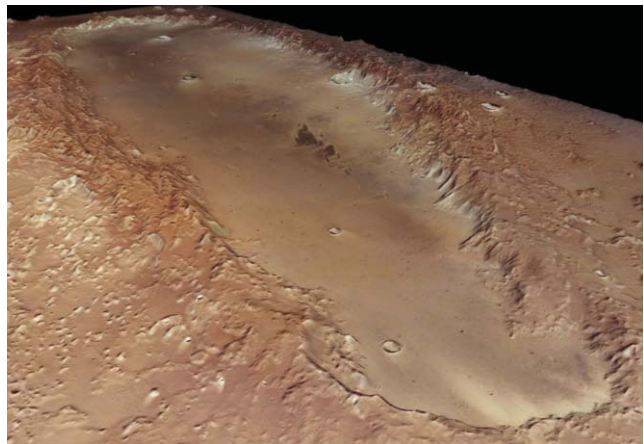


Figure 4: Orcus Patera crater on Mars. Image captured by the European Space Agency's (ESA) Mars Express probe

Credit: ESA/DLR/FU Berlin (G. Neukum)

scar: the Orcus Patera crater (Figure 4). Orcus Patera is an enigmatic crater discovered on the surface of the planet Mars. It is located in the southern hemisphere of the red planet (21° S, 55° E) and has an elongated shape that is 28 kilometers long and 2 kilometers deep (these data were provided by the Mars Express

space probe (USA) on August 4, 2010).

We highlight the resemblance of KA in terms of both form and behavior to structures present in nature and propose that, despite the evolution and excellent cosmetic results shown here, surgery be considered an option for treatment of KA. □

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