CASE REPORT

Nodular Amelanotic Melanoma presenting as a keloid

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ABSTRACT

The case of a patient with a recurrent tumor is introduced. The patient was previously treated by several specialists and presented confusing clinical and histopathological manifestations. A differential clinical and dermoscopic diagnosis is made, as well as a histopathological study that allowed us to move towards the adequate management of the problem.

INTRODUCTION

Cases of long evolutive history and previous surgical or medical treatment may present challenging diagnoses due to changes made to the clinical presentation of the lesions, leading to certain confusion, or therapy delay, as well as mistakes.

A case with such features is presented. This case required detailed clinical research and procedures, which allowed specialists to make a proper diagnosis, reach a solution and manage the problem..

CASE REPORT

A 58-year-old male patient, without relevant pathological records, consults for the first time and presents an exophytic, erythematous, sessile, lobulated, hard tumor located on the anterior portion of the thorax and measuring approximately +-3 cm in diameter, while revealing a blackish crust in the lower section on an erythematous plaque, measuring +-10 cm in diameter, and a linear hypertrophic scar due to previous resection. (Fig. 1)

The patient's medical records refer a consult from one year ago with a specialist, who evidenced a macular, brown lesion in the same location, which was entirely excised and submitted for histopathological examination,

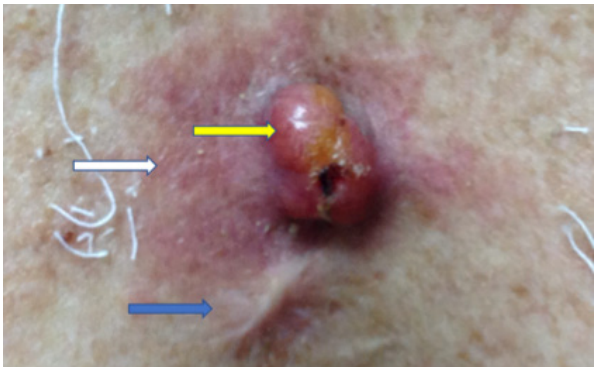

Figure 1: The yellow arrow points to the yellowish red nodular lesion with hemorrhagic crust in the surface. The white arrow evidences the lesional erythematous and inflamed peripheral area. The blue arrow shows the scar from primary resection.

resulting in a junctional nevus diagnosis. However, one year after the surgery, a small tumor appeared on the previous scar which slowly grew. As a consequence, the patient consulted another specialist and was diagnosed with a keloid scar. Treatment with intralesional corticosteroid infiltration was received twice. The recurrent lesion grew, as well as the level of inflammation. One month later, he asked for a new consultation.

The information collected allowed us to establish possible differential diagnoses, which have been visually laid out, while comparing the lesion described along other suggestive cases, mostly derived from our patient files. (Table 1)

Dermoscopic examination (magnification of the aforementioned lesion) reveals multiple irregular and tortuous vessels, hairpin-like or looped vessels, milky red areas and the presence of a hemorrhagic crust suggestive of an ulcerative process. (Fig. 2)

Based on these dermoscopic findings, a bibliographical research[1-6] was conducted. Such research explored dermoscopic manifestations of several pathologies chosen for the aforementioned clinical differential. The results were as follows. (Table 2)

The results of this table evidence that the pathology with the greatest percentage of positive structures corresponds to the amelanotic melanoma: 4 present structures with an average of 3 crosses each. Second place corresponds to the dermatofibrosarcoma protuberans with 4 structures and an average of 1 cross per structure. Lastly, third place goes to basal cell carcinoma with 3 structures and an average of 2 crosses.

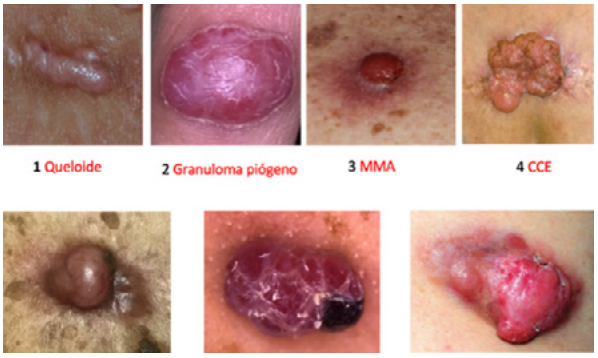

Table 1: Possible differential diagnoses according to clinical features.

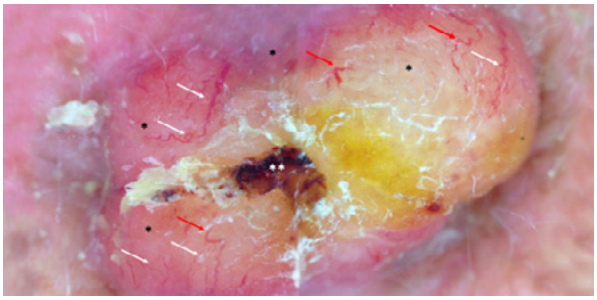

Figure 2: The white arrows show linear and tortuous irregular vessels and the red arrows locate looped vessels, the black asterisks point out the milky-red areas and the double white asterisk locates the hemorrhagic crust

STRUCTURES	KELOID	AMM	BCC	METATYPICAL BCC	DERMATOFIBROSARCOMA PROTUBERANS	NODULAR SCC	PYOGENIC GRANULOMA
Linear Irregular Vessels	+++	+++			+	++	
Arborizing Vessels	+		+++	+++	+		
Polymorphic-hairpin vessels		++		++	+	+	
Ulceration		+++	+				+++
Milky red areas		+++	+		++		+

Table 2: Dermoscopic features of each differential diagnosis are shown. Crosses are marked according to how frequent the 5 chosen structures for each disease appear.

This previous evaluation is followed by an incisional biopsy, which is entirely submitted for histopathological examination with three presumptive diagnoses: keloid, keratoacanthoma, variant of squamous cell carcinoma (both cases suggested according to medical history and clinical aspects) and amelanotic melanoma, based on dermoscopic findings.

The histopathological study reports the following results: (Fig. 4 and 5)

- Skin with nodular malignant neoplasm located on the dermis, developing ulcers on the skin and spreading to the deep reticular dermis, almost reaching the subcutaneous cell tissue limit, with a maximum depth of approximately 9 mm and constituted by fusiform cell proliferation of ample eosinophilic cytoplasm disposed in irregular bundles.
- The adjacent epidermis does not present clear epidermal component.
- Presence of moderate associated lymphoplasmacytic infiltrate.
- Tumor-free surgical margins. Tumor located closely to foci.

The immunohistochemistry results are as follows, S 100 and positive Melan A and CD34, high molecular weight cytokeratin and negative HMB45. (Fig. 6 and 7)

Biopsy, according to the results, reports:

- Clark level IV Nodular Melanoma (extensive invasion in reticular dermis)
- 9.0 mm of depth according to Breslow
- Fusocellular morphology
- Surface: 24 mitoses per 1 mm2
- Moderate lymphoplasmocitary inflammatory reaction
- Absence of regression signs
- Absence of vascular invasion
- Presence of ulceration

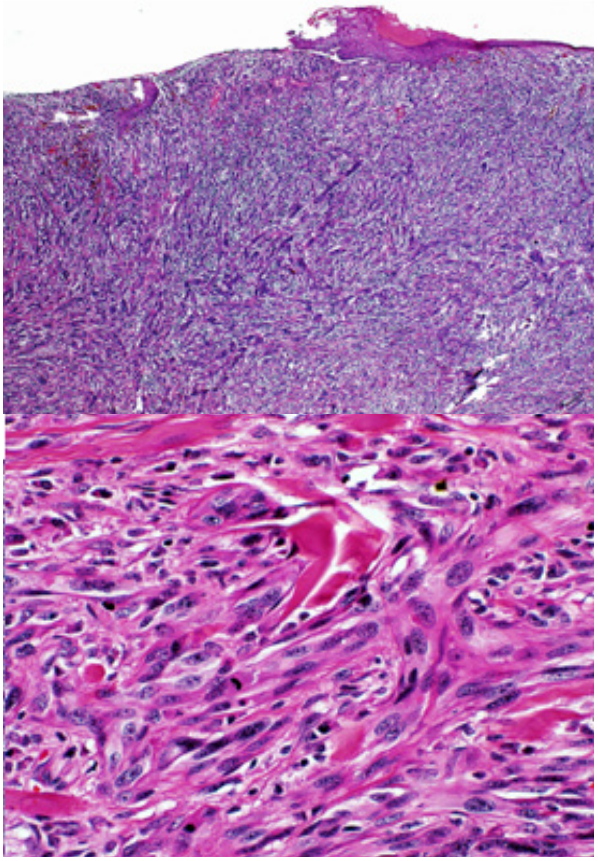

Figure 4 and 5: Panoramic vision and close-up of histopathology in nodular malignant lesion located on the dermis, developing ulcers on the skin and spreading to the deep reticular dermis.

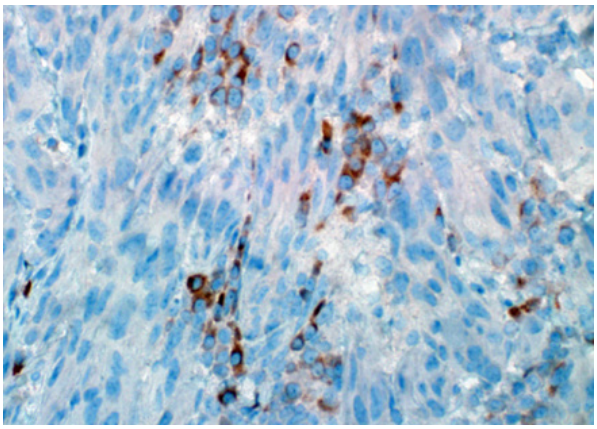

Figure 6: S100 positive diffuse of moderate intensity.

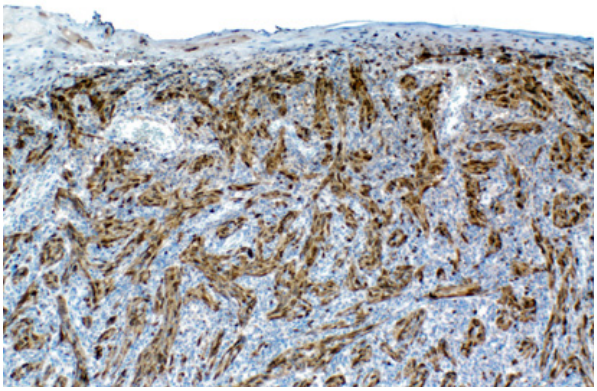

Figure 7: Focal and weak positive melan-A.

- Tumor-free deep and lateral surgical margins

Final histopathologic diagnosis

- Nodular amelanotic melanoma presenting as a keloid

EVOLUTION

The results prompted the patient to consult an oncology center in the United States, where the diagnosis was confirmed. Protocol research, along with an image study and sentinel lymph node examination (positive in left arm pit), was conducted.

A wide resection of the original lesion and removal of the compromised lymph nodes in the affected armpit were performed. No chemotherapy was performed. Up until now, five years later, the patient has not experienced relapse.

DISCUSSION

There are still a few unclear facts about melanoma etiology. However, it has been established that sun exposure, past presence of certain nevi and, above all, genetic hereditary factors are the most significant causes.

Malignant melanoma is generally divided into 4 common types:[7]

1. Lentiginous acral melanoma,
2. Lentigo maligna melanoma,
3. Nodular melanoma
4. Superficial spreading melanoma

Amelanotic malignant melanoma (AMM) is considered as a variant due to its lack of pigmentation, which easily escapes the minds of specialists and is frequently diagnosed at a later stage, when it manifests as a slightly ulcered thick vascular nodule.[8] As acknowledged by Koch in his case report,[9] AMM is part of the group of great simulators. Specifically, this criteria is fulfilled because it is labeled as a keloid scar (Table 3).[10]

Malignant melanoma represents 3% to 5% of all skin malignant neoplasms. It is quite metastatic and represents approximately 75% of deaths by malignant cutaneous tumors, while the amelanotic variant has an incidence rate of 8% when considering all melanomas. The keloid amelanotic melanoma is even rarer. There are very few reports of its kind.[10]

AMELANOTIC MELANOMA AND SIMILAR CLINICAL DIAGNOSES
BENIGN LESIONS
Intradermal nevus
Seborrheic keratosis
Verruca Vulgaris
Dermatitis
Pyogenic granuloma
Depigmentosus nevus
Annular granuloma
Scar
Actinic keratosis
Lymphocytoma cutis
MALIGNANT LESIONS
Basal cell carcinoma
Keratoacanthoma
Bowen Disease
Mercel cell carcinoma
Atypical fibroxanthoma

Table 2: Extracted from the article by Koch et al.[9]

CONCLUSION

- As a great simulator, what gives the amelanotic malignant melanoma a great significance, is its unusual aspect, along with the fatal consequences it would bring if ignored.
- Early diagnosis is achieved through dermoscopy and the awareness of reported cases.
- Keloid's marked abnormality forces specialists to expand their imagination regarding inflamed scars with suggestive medical history.
- Thus far (2020), only 3 cases of AMM presenting as a keloid on a surgical scar have been found in the bibliography at our reach,[10–12] with just one of them being featured on a dermatology publication.[12] These cases require proper medical history to achieve the desired results.

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