

# Skin reaction to imiquimod self-treatment in post-menopausal women. A case report

## Abstract

The most common malignant skin diseases are basal cell carcinomas. Their incidence is rising worldwide due to the aging of the population and chronic exposure to the sun. Treatments are varied, but for superficial lesions Imiquimod treatment is also used. We present a case report of 66 years old postmenopausal women, with an erythematous plaque, serous and sanguinolent secretions at the surface on the septal and left nasal ala together with a hemorrhagic crust. The signs were present seven years before. In the last period, the lesions have extended and the patient started to use for three consecutive days topical imiquimod. From the second day of administration, intense hyperemia of the lesions and post-scratch erosion it was observed. Therefore, we noted that using imiquimod in postmenopausal women without medical advice, especially in postmenopausal women, could represent a higher risk of skin lesions which need specialized medical treatment.

**Keywords:** basal cell carcinomas, imiquimod, treatment, cytokine

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## Introduction

The most common malignant skin diseases are basal cell carcinomas, which in the proportion of 25-30% most often affect the nose<sup>(1)</sup>. Their incidence is rising worldwide due to aging population and chronic sun exposure. Due to these facts, evidence of the effectiveness of different treatment modalities is required to enable patients to be informed about all alternative treatment options and to make informed decisions. For example, in superficial nodular basal cell carcinomas there are clinical trials that place parallel surgical and Imiquimod treatment<sup>(2)</sup>. Imiquimod treatment is reserved for forms of multiple and superficial injuries<sup>(3)</sup>. Until present there are still not good quality trials for

basal cell carcinoma treatments considered that most studies have focused on low-risk locations and the smallest failure rates are due to surgical treatments and radiotherapy<sup>(4)</sup>. Some studies have showed that Imiquimod is a cytokine inducer and a modifier of the innate immune response as well as the antiviral and antitumoral immune response acquired<sup>(4)</sup>.

## Case Report

We present the case of a 66 years old postmenopausal women. The patient presented with an erythematous plaque, with serous and sanguinolent secretions at the surface and a hemorrhagic crust, reddish brown. This was localized on the septal and left nasal ala.



Figure 1. Anterior view of the lesion (personal collection)



Figure 2. Lateral view of the lesion (personal collection)

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Figure 3. Detail of the lesion (personal collection)

The patient also reported localized burning sensation (Figures 1 and 2).

The first signs of the lesion appeared seven years before, having the aspect of two small erythematous plaques. In the last two years, without any medical



Figure 4. Presentation at discharge (personal collection)

intervention, the lesion extended. One week before presenting to the medical office, the patient used, for three consecutive days, at bedtime, topical imiquimod.

After the second day she observed intense hyperemia of the lesions and post-scratch erosion. After the third day of self-administered treatment the patients decides to consult the physician (Figure 3).

The patients reported no relevant family history and a past medical history of high blood pressure, and asthma, both under treatment. For the high blood pressure the patient was followed treatment with nebivolol 5mg once a day, indapamid 1.5 mg once a day, and theophyllin 350mg once a day. At the physical examination the blood pressure was 150/100 mmHg, indicating insufficient blood pressure control. At the inferior eyelid of the left eye an hordeolum, well delimited, inflamed with hyper lacrimal secretion and moderate local pain. Other results from the physical examination where normal.

The patients followed a three day treatment with dexamethasone, I.M. 4mg/1ml, 1 ml once a day and local treatment with betamethasone/gentamicin topical treatment, two times a day.

At discharge the patient presents with two macular lesions, one with a diameter of 0.5 cm and the other of 2 cm/1.5 cm. The margins were irregular, badly delimited, covered with serous and hemorrhagic secretion, with a reddish-brown hemorrhagic crust at the periphery. Perilesional, there was a pearled aspect (Figure 4).

## Discussion

Imiquimod is a synthetic imidazoquinoline approved for the treatment of actinic keratoses<sup>(1)</sup>. Imiquimod has been shown to be effective as a topical treatment for basal cell carcinoma<sup>(5)</sup>.

Being a cytokine and interferon inducer<sup>(5)</sup>, imiquimod stimulates the production of cytokines in human and animal monocyte/macrophage cells and human keratinocytes in vitro<sup>(6)</sup>.

Imiquimod appears to modulate Langerhans cell function by improving skin migration to regional lymph nodes. Local inflammatory response at the treatment site appears to be a manifestation of cytokine induction in the skin involved<sup>(7)</sup>, allowing for increased antigen presentation, also contributing to modulating the immune response<sup>(8)</sup>.

The published data on the use of imiquimod only treated low-risk areas affected by superficial basal cell carcinomas<sup>(9)</sup>. There are cases in which surgical excision may be very difficult, for example in the area of the eyelids, or in the medial area of the test<sup>(10)</sup>.

Several studies have investigated the efficacy of imiquimod cream in the treatment of nodular basal cell carcinomas.

The lower clearance rates of nodular basal cell carcinomas on the nose, compared to standard surgical treatments, make imiquimod cream a lower treatment. However, the use of cream before Mohs surgery could

reduce the volume of the tumor and would facilitate the procedure so that fewer steps would be required, resulting in a lower defect and a less extensive and less expensive surgical reconstruction<sup>(1)</sup>. Due to the shorter healing time through surgery, it will prevail over topical treatment<sup>(7)</sup>.

Nasal nodal basal cell carcinomas which appears mostly in the postmenopausal women, could be more resistant to imiquimod treatment than superficial and nodular treatments in other places of the skin. A local inflammatory reactions associated with imiquimod in

the treatment of nasal basal cell carcinomas limit its usefulness as adjunctive therapy<sup>(1)</sup>.

Imiquimod, if self-administered can represents a cause of more severe lessions, with unwanted complications and possibly, as in this case, hospitalizations.

## Conclusions

Using imiquimod in postmenopausal women without medical advice and the overdosage is not a potential but a certain risk for skin lessions that need immediate specialized medical treatment. ■

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