

## CASE REPORT

# Superficial Basal Cell Carcinoma on the Concha Successfully Treated with CO<sub>2</sub> Laser: A Case Report

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## Abstract

**Background:** CO<sub>2</sub> laser has gained interest in the last years as a treatment option for basal cell carcinoma (BCC) due to its low morbidity and good cosmetic outcomes.

**Case:** A 59 year-old-female presented with a superficial BCC on the Concha. The patient refuses surgery so we applied one session of CO<sub>2</sub> laser with an excellent cosmetic outcome and no recurrence in the long-term follow-up.

**Discussion:** CO<sub>2</sub> laser may be considered as a good option for low risk BCC in patients who cannot undergo surgery.

**Conclusion:** Our case supports the evidence on the effectiveness of CO<sub>2</sub> laser as treatment for superficial BCC.

**Keywords:** Basal Cell Carcinoma; Laser CO<sub>2</sub>; Non-Surgical Treatment

**Abbreviations:** BCC: Basal Cell Carcinoma

## Introduction

Basal cell carcinoma (BCC) is the most common skin cancer worldwide with an increasing incidence over the last years [1]. The standard treatment is surgical excision; however, in situations where it is not possible to perform it, alternatives such as CO<sub>2</sub> laser are useful [2-7]. We present a case of a superficial BCC in the Concha successfully treated with CO<sub>2</sub> laser.

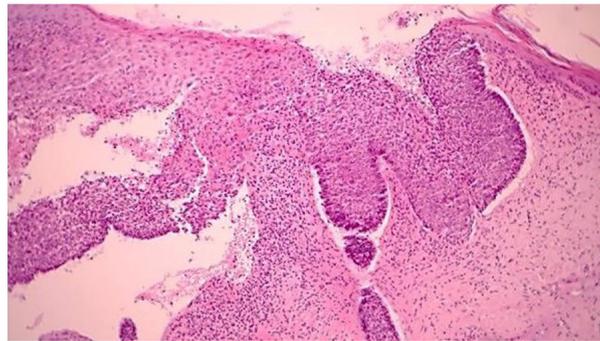
## Case Report

A 59 year-old-female consulted for a lesion in the left ear of one year of evolution. On examination, we observed a 6x5 mm erythematous plaque in the Concha with white scale on the surface (Figure 1A). Dermoscopy showed telangiectasias over a shiny white-red structureless area (Figure 1B). The patient was previously healthy and denied associated symptoms or a previous treatment for the tumour. A biopsy was performed reporting a superficial BCC (Figure 2). The patient refused surgical excision and asked for a non-surgical therapy. CO<sub>2</sub> laser was applied after informed consent signature. The area was delimited with a 2 mm margin of apparently healthy skin. We applied one session of CO<sub>2</sub> laser DEKA SmartXide® using continuous pulse until visualizing cartilage. The parameters used were: 1-2 mm spot size, 0.7 seg pulse duration with 4.7 W and 50 Hz of frequency. After two weeks, the wound was totally healed with no complications. The 5-year follow-up showed no evidence of tumor recurrence (Figure 1C & 1D).





**Figure 1:** A) Superficial BCC in the left ear. B) Dermoscopic image showing telangiectasias over a shiny white-red structureless area. C) And D) Dermoscopic and clinical image after one session of CO<sub>2</sub> laser. A whitish scar is observed without evidence of recurrence



**Figure 2:** Superficial BCC displaying bundles of basaloid cells attached to the epidermis with a prominent peripheral palisading (H&E x10)

## Discussion

There is a broad range of therapeutic options for BCC which must be selected according to the characteristics of the tumor and patient preferences. In general, surgical excision is the first line treatment but there are other modalities available for patients with low-risk BCC who cannot undergo surgery or refuse it. Examples of these are imiquimod, 5-fluorouracil, cryotherapy, photodynamic therapy and some lasers [8]. CO<sub>2</sub> laser has gained interest in the last years due to its ablative properties. It destroys the cells by photocoagulation causing a confined tissue damage [2,3]. The main advantages of this therapy are low morbidity, short healing time and a highly satisfactory cosmetic outcome. The side effects that may occur are hypopigmentation or hyperpigmentation of the area and atrophic or hypertrophic scars [4,5].

The main indication for the use of CO<sub>2</sub> laser in BCC is the superficial subtype. The cure rate reported after one session is up to 97% with a recurrence of only 0-3.2% in the long term [2,5]. This is highly relevant since the aim of the treatment for BCC is the eradication of the tumor within the first treatment to prevent a local recurrence and minimize complications. Also, it is important to mention that those rates are comparable to the ones reached by surgical excision, photodynamic therapy and cryosurgery with the advantage of a lower morbidity and a shorter healing time with CO<sub>2</sub> laser [5,8].

## Conclusion

We presented a case of superficial BCC successfully treated with CO<sub>2</sub> laser without recurrence in the long-term follow-up and a highly satisfactory cosmetic outcome. This supports the evidence on the effectiveness of this therapy as an alternative treatment for patients who cannot undergo surgery or refuse it. However, further controlled clinical trials are necessary to compare it with other treatments and establish optimum parameters.

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