

## CO<sub>2</sub> laser therapy in a case of steatocystoma multiplex with prominent nodules on the face and neck

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### Abstract

**Background** Steatocystoma multiplex is an uncommon disorder which usually begins in adolescence or early adult life. The condition can be hereditary, as an autosomal dominant trait, or nonhereditary, as in this case.

**Methods** A 40-year-old woman presented with a history of asymptomatic nodules that began around puberty on the face. There was no family history of similar lesions. Clinical examination revealed multiple nodules distributed on the face and neck. The histopathologic examination of a biopsy specimen showed the typical features of steatocystoma multiplex. CO<sub>2</sub> laser therapy without anesthesia was employed, and the contents were evacuated by squeezing the cysts with a pair of forceps.

**Results** Very good results were obtained with rapid healing, minimal invasiveness, and without anesthesia. There was no evidence of scar formation and no signs of recurrence at 2-year follow-up.

**Conclusions** Different treatments have been reported for steatocystoma multiplex. We consider CO<sub>2</sub> laser therapy to be an ideal technique for the treatment of steatocystoma multiplex, especially when the lesions are localized in aesthetically important areas.

### Introduction

Steatocystoma multiplex is a clinical condition characterized by numerous dermal cysts that have their origin in the pilosebaceous duct. The term was coined by Pringle in 1899, but probably the first case was reported by Jamieson in 1873, and, in 1896, Dubreuilh and Auché were the first to observe the presence of sebaceous glands within the cysts.

Steatocystoma multiplex is a quite uncommon pathology which usually begins in adolescence; in a few cases, it occurs in adulthood or is present at birth. Sometimes it is inherited, as an autosomal dominant trait, but more often it is sporadic, as in our case. Both the hereditary and nonhereditary forms affect both sexes equally.

Clinically, steatocystoma multiplex presents as numerous (sometimes several hundred) elastic or firm, flesh- to yellow-colored nodular cystic formations between 0.2 and 2 cm or more in diameter. In two cases, it has been observed as a form with papular lesions, less than 5 mm in diameter, located exclusively on the face ("facial papular variant").<sup>1</sup>

Steatocystoma multiplex usually affects the trunk (especially the presternal area), proximal extremities, and axillae, but lesions can be distributed on the neck, scalp, abdomen, and glutei and, less frequently, on the face and genitalia.

In one case in the literature, nodules were reported to occur over almost all of the skin surface;<sup>2</sup> in another, the disorder was confined to the scalp,<sup>3</sup> and, in another, it was observed in the retroauricular region.<sup>4</sup>

Occasionally, steatocystoma simplex, with its typical solitary nature, is observed as a nonhereditary form in adults.<sup>5</sup>

Cysts are usually asymptomatic, although they inflame easily and sometimes suppurate due to trauma and/or incidents. Lesions usually appear in adolescence and increase in number and size; sometimes they are present at birth.

### Case report

We report the case of a 40-year-old woman who presented with nodular cystic lesions, between 0.5 and 1 cm in diameter on the eyelids and forehead (Fig. 1) and up to 2 cm or more in diameter on the neck. Nodules were skin-colored, without alterations of the surrounding skin, and characterized by an elastic firm mass. The patient stated that the lesions had appeared around puberty. Year by year they had increased in number and size. Similar lesions were not detected on other dermal or mucous surfaces, and no pathologic, dermal, or nondermal conditions were observed. There was no family history of similar pathology or of systemic pathology.



**Figure 1** Nodular cystic lesions of steatocystoma multiplex on the eyelids and forehead



**Figure 2** Before CO<sub>2</sub> pulsated laser therapy

Even though the diagnosis was mainly clinical, histologic examination of an excision biopsy specimen confirmed steatocystoma multiplex and revealed mid-dermal cysts with folded, collapsed walls, lined by stratified squamous epithelium in the absence of stratum granulosum. Sebaceous lobules were present within the cyst walls. The epidermis adjacent to the cysts was normal.

For the nodules located on the eyelids, we used CO<sub>2</sub> pulsated laser therapy (SL250 CO<sub>2</sub> laser, DEKA m.e.l.a., Florence, Italy) at 3% duty cycle, at a frequency of 10 Hz and with a 1–2-mm diameter spot. These values were maintained whilst the cyst was opened along its major axis, its contents emptied, and the cyst wall vaporized in the smallest cysts, or the contents were removed mechanically with anatomical forceps in the larger lesions. Negligible invasiveness, no anesthesia, and no bleeding were observed, with rapid healing of the treated lesions. Good cosmetic results were obtained and no recurrences were observed at 2-year follow-up (Figs 2 and 3).



**Figure 3** Good cosmetic results and no recurrence at 2-year follow-up

## Discussion

According to the literature,<sup>6–12</sup> a wide range of therapeutic attempts have been made to cure steatocystoma multiplex. Antimicrobial therapy, with incision and drainage, is highly recommended in suppurative forms. Aspiration techniques have been used, above all in larger cysts, but a high percentage of recurrence has been observed. Recurrence also occurred after isotretinoin therapy, either topical or oral. There has been no indication of the efficacy of surgical excision in larger cysts, such as that reported here. Moreover, cryotherapy can leave residual scarring.

Generally, there is no reason to remove the lesions, except for cosmetic purposes, as steatocystoma multiplex is a benign pathology. If patients choose this option, however, we consider CO<sub>2</sub> laser therapy to be an ideal technique for the treatment of steatocystoma multiplex, in particular for multiple lesions and/or lesions located in aesthetically important areas.

Indeed, CO<sub>2</sub> laser therapy allows the treatment of a number of lesions without anesthesia during a single treatment session, with minimal invasiveness, good aesthetic results, rapid healing, and a low percentage of recurrence.

Therefore, we consider this pathology to be one of numerous clinical conditions that can take full advantage of laser therapy.

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