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A Case History Lymphoma Induced After Injection of Deoxycholic Acid

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Abstract:

Keywords: Lymphoma, deoxycholic acid

1. INTRODUCTION

Deoxycholic acid (ATX-101) is a major advance in the reduction of submental fat without surgery. Approved by the FDA (Food and Drug Administration) in 2015, it represents the first injectable drug for this indication. Developed on the basis of research showing that it induces lysis of fat cells, while preserving the surrounding tissue. In-depth clinical studies have confirmed its efficacy and safety, making ATX-101 a promising option for the reduction of submental fat.

2. OBJECTIF:

To document a rare and unusual case of complication associated with the use of deoxycholic acid for submental fat reduction.
To analyse the clinical features and results of this particular case.
To highlight the potential risks associated with the use of deoxycholic acid and to emphasize the importance of careful patient assessment and appropriate management.
To contribute to the awareness and understanding of practitioners and patients of the potential complications of ATX-101, in order to promote safe and effective use of this treatment.

3. CLINICAL CASES:

We report the clinical history of a 35-year-old female patient, with no notable medical history, who elected to undergo injections of deoxycholic acid to treat submental fat, a procedure performed by a non-medical practitioner. Three days after the injections, the patient noticed progressive sublingual swelling (Fig.1), which rapidly spread to the submental and submandibular regions (Fig.2).

Biological tests showed a hyperleukocytosis of 22,000 iu/µL with a predominance of neutrophils and a negative C-reactive protein. The swelling was then treated as cervical cellulitis, but the situation rapidly worsened with the onset of severe inspiratory dyspnea, caused by oropharyngeal obstruction. This rapid deterioration necessitated emergency admission to our department, where a life-saving tracheotomy was performed, under local anaesthetic and in a semi-recumbent position under local anaesthetic and in a semi-seated position.
A cervical-facial CT scan was performed, which revealed thickening of the soft tissues without any identifiable collection (Fig.3 and Fig.4). Biopsies were then taken from the sublingual and submandibular areas under local anaesthetic, revealing lymphomatous proliferation (Fig.5 and Fig.6), suggesting an association between injections of deoxycholic acid and the development of this complication. Immunohistochemistry was in polymorphic lymphoproliferative syndrome (post-transplant-like). The patient was transferred to the hematology department for further treatment, where she died.

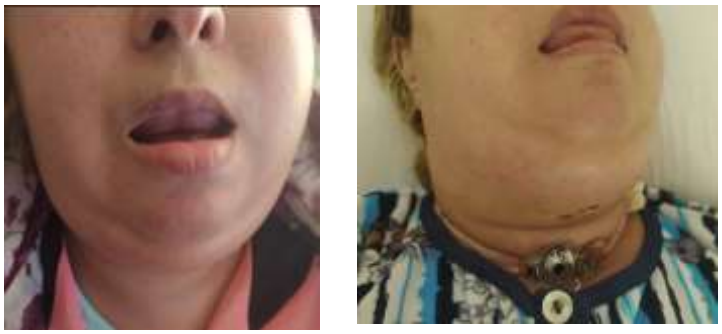

Figure A: Images showing a large sublingual and cervical mass

MRI Showing a lingual mass

4. DISCUSSION:

The use of deoxycholic acid (ATX-101) as a non-surgical alternative for submental fat reduction began in 2007. Its efficacy was demonstrated in the study by Dyane et al. This was a multicentre, double-blind, randomised North American study involving 1,019 patients with moderate to severe (grade 2 to 3) excess submental fat. To treat the submental area with ATX-101, subcutaneous injections of 2 mg per cm2 were performed using a 27- or 30-gauge needle 100 mm in length. The injections follow a grid pattern of dots spaced 1 cm apart, with a maximum total dose of 100 mg per session spread over a maximum of 50 points. If necessary, several sessions can be carried out, up to 6 sessions, spaced 4 weeks apart to allow lipid waste to be eliminated.

The side effects noted were oedema 87%, pain 70%, bruising 72%, numbness 66%, pruritus and redness. These effects were all transient, lasting a few days, and localised to the injection area. However, it is contraindicated in children, pregnant or breast-feeding women, diabetics with micro angiopathy, blood coagulation disorders, skin infections and severe renal or hepatic insufficiency. The use of ATX-101 can lead to serious but less frequent complications, including nerve damage, swallowing difficulties, damage to lymph nodes and salivary glands, and skin problems such as alopecia and ulceration.

Serious events such as neutrophil dermatitis, submental abscesses and vascular complications have also been reported.

5. CONCLUSION:

In conclusion, although ATX-101 offers promising possibilities in the reduction of submental fat, further research is needed to better understand its effects, risks and optimal use. Further studies will improve the safety and efficacy of this treatment, paving the way for more informed clinical practice and safer treatment options for patients.

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