

Oxygen-ozone therapy and local administration induced pain

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Abstract

Oxygen-ozone (O₂-O₃) therapy is emerging in the treatment of many diseases. This kind of treatment is characterized by a few side effects. When oxygen-ozone mixture is administered through subcutaneous or intramuscular infiltration, often patients refer pain or burning sensation in the site of injection. The aim of our study is to evaluate intensity and duration of this side effect during treatments.

Introduction

Oxygen-ozone (O₂-O₃) therapy is emerging in the treatment of many diseases, including bone and joint pain conditions (Figure 1). Relatively to these diseases come to our attention a large number of patients suffering from root disks conflict. In these patients, O₂-O₃ mixture is administered through subcutaneous and/or intramuscular way.¹ This administration is carried by a constant burning sensation/pain of variable intensity and duration.^{2,3} The aim of this study is to evaluate the intensity of pain after a local administration of O₂-O₃ mixture, through Verbal Rating Scale (VRS).

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Materials and Methods

Patients suffering from disc-articular conflicts are treated through subcutaneous injections and/or intramuscular injections of O₂-O₃ mixture of 10 pg in a 10 cc of volume. After the administration of gas all patients feel a sensation or pain of variable duration from 60 seconds to 180 seconds. This happens in 98-100% of cases at the first dose. In our center, we enrolled a homogeneous group of 30 patients (all suffering from root disk conflict, and aged between 29 and 65 years) that avail themselves of subcutaneous (Figures 2 and 3) and intramuscular O₂-O₃ administration. Through Verbal Rating Scale (VRS) we evaluated the intensity of postoperative pain and its duration (Figure 4). VRS is a one-dimensional and categorical scale, which evaluate the intensity of pain through description of the patient, considering four categories (no pain, mild pain, moderate pain, severe pain). We adopted an ozone machine Medical 95 CPS [Multiossigen S.r.l., Gorle (BG), Italy].

Results and Discussion

At the first treatment, of the 26 patients treated, 21 described severe pain, 4 moderate, 1 mild. In all patients pain after the first treatment lasts less than 120 seconds, in 19 patients less than 90 seconds, in 6 patients less than 40 seconds. From the subsequent treatments, the duration of burning/pain, and the intensity of the same is reduced by 60% on average.

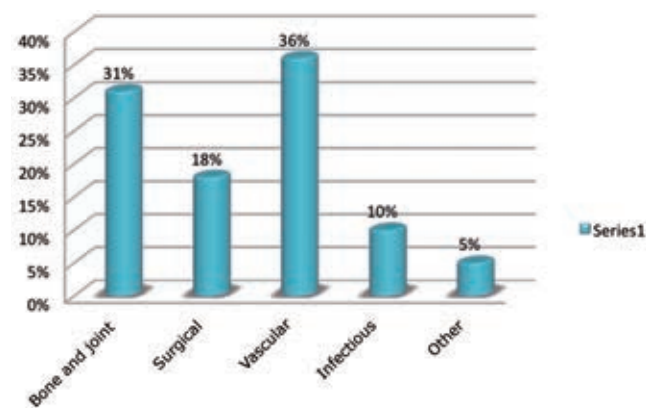


Figure 1. Diseases treated with oxygen-ozone therapy.



Figure 2. Subcutaneous administration in cervical site.



Figure 3. Subcutaneous administration in lumbar site.

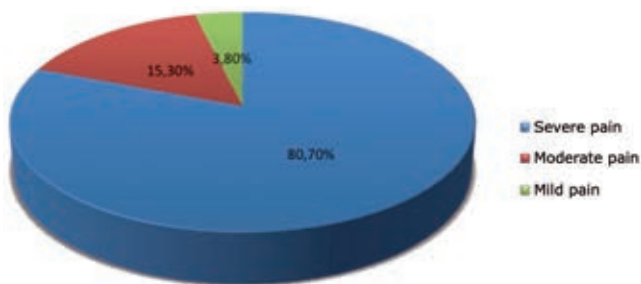


Figure 4. Results expressed as percentage following the Verbal Rating Scale.

Conclusions

O₃ administration causes pain in the injection site in all treated patients. This pain is described as severe by 80.7% of patients, moderate in 15.3%, mild in 3.8% of patients. It has a duration of less than 3 minutes in 100% of the same. The duration is reduced of 60% in the subsequent treatments.

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