Evaluation of Ozone Therapy Patients in A Traditional and Complementary Medicine Center

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ABSTRACT

Objective: Traditional medicine refers to knowledge, skills and practices based on theory and experience used in maintaining health, preventing, diagnosing and improving diseases and/or treating physical and mental illnesses. Ozonetherapy is used as a complementary method for osteoarthritis, wound healing and especially pain management. This study aims to evaluate patients who received ozone therapy at the TCM application center in our hospital.

Method: Ozone therapy applications performed at the TCM center in the last year were included in our study. Patient files were retrospectively reviewed and age, gender, reason for application, type of procedure, number of sessions, and whether the application was systemic or local were recorded.

Results: 186 patients were included in the study. 114 of the patients were female and 72 were male. The average age was 48.2. 169 of the patients had a diagnosed chronic disease. The most common chronic disease was fibromyalgia, seen in 46 of the patients. It was seen that the most common reason for application was pain. The second most common reason for application was chronic fatigue. It was observed that the largest number of applications was major ozone therapy with 1550. The least applied procedure was minor therapy with a total of 24 applications.

Conclusion: Ozone therapy, one of the traditional and complementary medicine methods, is a complementary, supportive and reconstructive treatment method with antioxidant, immunomodulatory, analgesic and anti-inflammatory effects through different application methods for patients and is generally applied in addition to standard medical treatment with low risk.

Keywords: Ozone therapy, traditional and complomentary medicine, chronic disease, pain

INTRODUCTION

Traditional and complementary medicine (TCM) encompasses a variety of practices, approaches, and treatments that have their roots in ancient cultures and traditions, but are often used as a complement to modern medicine. Traditional medicine refers to the knowledge, skills, and practices based on theory and experience used in the maintenance of health, prevention, diagnosis, and recovery of diseases, and/or treatment of physical and mental illnesses. This holistic approach to health care enhances the overall well-being of individuals, including the physical and psychological aspects of health. The World Health Organization (WHO) supports the potential contribution of TCM to health care and encourages the integration of products, practices, and practitioners in this field with modern medical practice. TCM can be body and mind-based, such as ozone therapy, acupuncture, mesotherapy, cupping therapy, hypnotherapy, as well as applications using natural medicinal products, such as apitherapy, hirudotherapy, and phytotherapy (1).

Ozone is an oxygen triatoma with high oxidant power. Ozone has been used for various purposes, including the therapeutic application of medical ozone for the treatment of various diseases. Ozone therapy, a TCM method applied in many countries worldwide and accepted as a medical procedure, is used as a complementary method for osteoarthritis, wound healing and especially pain management. Ozone therapy can be applied in different ways according to the targeted therapeutic purpose, considering the safety and efficacy levels at varying concentrations (2,3). Although it is known that there is a high demand for TCM clinics in Turkey,

there is not enough information in the literature about the characteristics and complaints of the patient groups applying, as well as which applications are mostly performed in these clinics. This study aimed to evaluate the patients who received ozone therapy at our hospital's TCM application center.

MATERIAL and METHODS

The files of patients who received ozone therapy and hypnotherapy at the TCM Application Center of Erzurum Atatürk University, Faculty of Medicine were evaluated retrospectively. Ozone therapy applications performed at the TCM center in the last year (November 2023-November 2024) were included in our study. Patients under the age of 18, patients who could not access their data, and patients who terminated treatment before completing their sessions were excluded from the study. The patients' age, gender, reason for application, type of procedure, number of sessions, and whether the application was systemic or local were recorded.

Ozone therapy protocol: Ozone therapy was applied in four different ways by evaluating the patients. Of these, major autohemotherapy was applied in a total of 10 sessions for each patient, local therapy in 8 sessions, bagging therapy in 20 sessions, and minor autohemotherapy in 6 sessions.

FINDINGS

186 patients who met the study criteria were included in the study. 114 of the patients were female (61.2%), 72 (38.8%) were male. The average age was 48.2. 153 of the patients were married. 84 patients were primary school graduates, 31 had high school, and 36 had undergraduate and graduate education.

Table 1. Diagnosed diseases of people who receive ozone therapy

Major ozone therapy	**N (%)**
Fibromyalgia	46 (%24,7)
Vertigo	30 (%16,1)
Rheumatoid arthritis	24 (%12,9)
Avascular necrosis	22 (%11,8)
Chronic fatigue	17 (%9,1)
Vitiligo	9 (%4,8)
Psöriasis	7 (%3,7)
Local ozone therapy	
Osteoarthritis	9 (%4,8)
Disc herniation	3 (%1,6)
Bagging ozone therapy	
Diabetic foot	3 (%1,6)
Burn	2 (%1,07)
Minor ozone therapy	
Allergic contact dermatitis	3 (%1,6)
Urticaria	1 (%0,53)

169 of the patients (90.8%) had a diagnosed chronic disease. The most common chronic disease was fibromyalgia, seen in 46 (24.7%) of the patients. The patients' current diseases are summarized in Table 1.

When the complaints of patients who received ozone therapy were examined, it was seen that the most common reason for application was pain with 104 (55.9%) patients. The second most common reason for application was chronic fatigue. It was seen that they applied to TCM center most frequently in autumn and least frequently in spring. The complaints of the patients are summarized in Table 2

Table 2. Reasons for applying for ozone therapy

Presenting complaint	**N (%)**
Pain	104 (%55,9)
Chronic fatigue	63 (%33,8)
Movement limitation	58 (%31,2)
Tinnitus	30 (%16,1)
Skin rash	22 (%11,8)
Delayed wound healing	52 (%27,9)

The total number of sessions performed was 2193, and the highest number of procedures was major ozone therapy with 1550. The least frequently performed procedure was minor autohemotherapy with a total of 24 applications. Hypotension was observed in 4 patients who underwent major autohemotherapy, which did not require termination of the procedure and responded to fluid therapy. No complications or mortality requiring hospitalization were observed in any patient during the procedure.

DISCUSSION

Ozone gas is a three-atom oxygen molecule that was first noticed by chemist Martin Von Marum in 1785 and has been used in medicine since 1902. In 1961, Dr. Hans WOLF first started using major and minor autohemotherapy techniques. Ozone therapy can be applied in many different ways, such as major autohemotherapy, saline physiologic ozonation, bagging, local infusion, minor autohemotherapy, dental applications, and periarticular. It is known that the gold standard method and the most frequently used method in most of the studies is major autohemotherapy (4). In our study, in accordance with the literature, the most applied technique was major autohemotherapy, with a total of 1550 sessions applied to 155 out of 186 patients.

Many diseases such as fibromyalgia, chronic fatigue syndrome, dental diseases, bacterial, viral and fungal infections, cancer-related fatigue, autoimmune diseases, pulmonary diseases, skin diseases

can be listed among the indications for ozone therapy (5). In our study, in accordance with the existing studies, the application was mostly applied to fibromyalgia and rheumatoid arthritis patients with a total of 70 patients.

Ozone has a strong analgesic effect in addition to its antioxidant, immunomodulatory and anti-inflammatory effects. (6) It is widely used in many diseases with pain symptoms due to its analgesic effect. In our study, pain, which was the complaint of 104 patients, was the most common complaint.

LIMITATIONS

In our hospital, other forms of ozone use, such as intra-articular, intramuscular or rectal applications, are not performed. In addition, the lack of follow-up records of patients after treatment is among the limitations of our study.

CONCLUSION

Ozone therapy, one of the traditional and complementary medicine methods, is a low-risk, complementary, supportive and reconstructive treatment method for patients, with its antioxidant, immunomodulatory, analgesic and anti-inflammatory effects through different application routes and is generally applied in addition to standard medical treatment.

DECLARATIONS

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Data Availability Statement: The datasets used and/or analyzed during the current study are available from the author upon reasonable request.

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