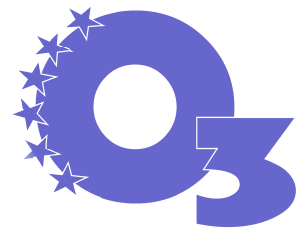


ÄRZTLICHE GESELLSCHAFT FÜR OZONANWENDUNG IN PRÄVENTION UND THERAPIE



November 2022

NEW PUBLICATIONS / NEUE PUBLIKATIONEN

Olga Sonia León Fernández, Gabriel Takon Oru, Renate Viebhan-Hänsler, Gilberto López Cabreja, Irainis Serrano Espinosa, Elizabeth García Fernández, **Medical ozone arrests oxidative damage progression and regulates vasoactive mediator levels in older patients (60-70 years) with oxidative etiology diseases** Front. Physiol., 03 November 2022

<https://www.frontiersin.org/articles/10.3389/fphys.2022.1029805/full>

Renate Viebahn-Hänsler, Olga Sonia León Fernández
Ozone In Medicine. The Low-Dose Ozone Concept and Its Basic Biochemical Mechanisms of Action In Chronic Inflammatory Diseases

Int. J. Mol. Sci. 2021, 22, 7890. <https://doi.org/10.3390/ijms22157890>

Renate Viebahn-Hänsler, Olga Sonia León Fernández

Ozon in der Medizin

Wissenschaft-Guidelines-Behandlungskonzepte

4. Auflage MedO3 Publisher 2022 ISBN 978-3-949499-12-8

(Free for members, see under „books and videos“)

ABSTRACT

Das Niedrig - Dosis Ozonkonzept als Bioregulator zellulärer Antioxidantien und als Immunmodulator Die Ozon-Sauerstoff-Therapie in Form des Niedrig - Dosis - Konzeptes hat sich als fundiertes komplementärmedizinisches Verfahren etabliert. Als wichtigste systemische Applikationsformen erweisen sich die Große Ozon- Eigenblutinfusion und die Rektale Verabreichung als evidenzbasiert gemäß der internationalen Klassifizierung; Wirkmechanismen und Pharmakologie sind gut erforscht, dokumentiert und international publiziert (peer reviewed), womit die Indikationen ihr wissenschaftliches Fundament erhalten: Chronisch entzündliche Erkrankungen und solche, die mit einer chronischen Entzündung einhergehen

- Angiopathien und arterielle Durchblutungsstörungen
- Rheumatoide Arthritis, Schmerztherapie
- Hepatitiden
- Komplementäre Onkologie

Auf der Grundlage der Guidelines der Ozontherapie werden Behandlungskonzepte vorgestellt: Indikationen, Applikationen, Dosierungen, Ozonkonzentrationen, Behandlungsfrequenzen; ebenso die Grundlagen in gestraffter Form sowie Pharmakodynamik und Pharmakokinetik des Ozons.

Renate Viebahn-Hänsler, Olga Sonia León Fernández

The Low-Dose Ozone Concept and its Pharmacology in Prevention and Convalescence

Önlemede ve İyileşmede Düşük Doz Ozon Konsepti ve Farmakolojisi

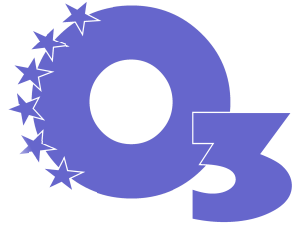
YAYIMCI - PUBLISHER Ortadoğu Reklam Tanıtım Yayıncılık Turizm Eğitim İnşaat Sanayi ve Ticaret A.Ş. E-ISBN: 978-625-401-668-4 © 2022 Türkiye Klinikleri. Türkiye Klinikleri Publication Serial Number: 1129. 1 st Edition, April 2022, Ankara-Türkiye

Ärztliche Gesellschaft für Ozonanwendung in Prävention und Therapie e.V.

1. Vorsitzender: Prof. Dr. Ziad Fahmy, D-Bad Kreuznach, Germany

GF und Sekretariat: Dr. Renate Viebahn-Hänsler, Nordring 8, D-76473 Iffezheim/Baden-Baden

ÄRZTLICHE GESELLSCHAFT FÜR OZONANWENDUNG IN PRÄVENTION UND THERAPIE



<https://www.turkiyeklinikleri.com/journal/geleneksel-ve-tamamlayici-tip-ozel-konular/959/en-index.html>

ABSTRACT

Systemically administered ozone with its mild oxidative eustress, able to upregulate antioxidative enzymes and to modulate the immune response e.g. "cytokine storm" is recommended as part of a complementary treatment concept in chronic inflammatory, long lasting processes with high oxidative stress and in diseases which are accompanied by an redox imbalance, rather than in the acute stages. To restore the glutathione equilibrium GSH/GSSG the low-dose ozone concept offers a strategy in redox medicine as shown here in primary and secondary prevention and convalescence. To illustrate the main pharmacological effects and to follow the treatment success we focus to the following reference substances: GSH (reduced glutathione), γ GT (gamma glutamyl transferase) or SOD (superoxide dismutase) as protection markers and one or two parameters of stress markers: MDA (malondialdehyde). Especially liver and kidneys are prevented from oxidative stress, regularly GSH increases, MDA decreases. In post acute inflammations (convalescence) we find the same biochemical mechanisms, summarized in virus diseases and diabetic angiopathy.

Keywords: Ozone therapy; bioregulation; glutathione balance; redox balance

ÖZET

Sistemik uygulandığında, sağladığı hafif oksidatif stres ile antioksidan enzimleri regüle edebilen ozon tedavisi ve bağışıklık tepkisini modüle etmek için de önerilmektedir. Yüksek oksidatif stres ile kronik inflamatuvar, uzun süreli süreçlerde redoks dengesizliği eşlik eder. Glutatyon dengesini yeniden sağlamak için düşük dozlu ozon konsepti, burada birincil ve ikincil olarak önleyici yaklaşımda ve nekahat döneminde redoks tıbbında bir strateji sunar. Ana farmakolojik etkileri göstermek ve tedavi başarısını takip etmek için odaklanması gereken referans başlıklar: GSH (indirgenmiş glutatyon), GT (gama glutamil transferaz) veya SOD (süperoksit dismutaz) koruma belirteçleri ve bir veya iki stres belirteç parametresi olarak: MDA (malondialdehit). Özellikle karaciğer ve böbreklerin oksidatif stresten korunması ile, düzenli olarak GSH artar, MDA düşer. Akut inflamasyon sonrası (nekahat döneminde) viral enfeksiyonlarda, diabetik anjiopatide özetlenen aynı biyokimyasal mekanizmaları buluruz.

January 15, 2022 until December 2022



UNIVERSITÀ
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Oxygen-ozone therapy in the medical practice: from basic mechanisms to treatment

A MASTER CURRICULUM, offered by the University of Verona,

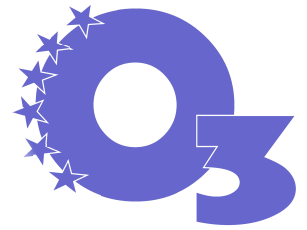
starts on January 29 with a contribution of our society. For details please go to the website of the University Verona:

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Responsible: Prof. Manuela Malatesta

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A remarkable number of articles have been published in a special issue **[Basic, Biological and Therapeutic Processes of Ozone Therapy](#)** in the **[International Journal of Molecular Sciences in 2021/2022](#)**

Auszug neuer interessanter Publikationen / Excerpt of New publications 2021/2022 which might interest you

All publications have free access

Intra Articular Ozone Modulates Inflammation and Has Anabolic Effect on Knee Osteoarthritis: IL-6 and IGF-1 as Pro-Inflammatory and Anabolic Biomarkers

Processes **2022**, 10(1), 138; <https://doi.org/10.3390/pr10010138>

Male vs. Female Differences in Responding to Oxygen–Ozone Autohemotherapy (O₂-O₃-AHT) in Patients with Myalgic Encephalomyelitis/Chronic Fatigue Syndrome (ME/CFS) *J. Clin. Med.* 2022, **11(1)**, 173; <https://doi.org/10.3390/jcm11010173>

Med. 2022, **11(1)**, 173; <https://doi.org/10.3390/jcm11010173>

Patients with Myalgic Encephalomyelitis/Chronic Fatigue Syndrome (ME/CFS) Greatly Improved Fatigue Symptoms When Treated with Oxygen-Ozone Autohemotherapy *J. Clin. Med.* 2022, **11(1)**, 29; <https://doi.org/10.3390/jcm11010029>

The Relationship between Ozone and Human Blood in the Course of a Well-Controlled, Mild, and Transitory Oxidative Eustress *Antioxidants* 2021, **10(12)**,

1946; <https://doi.org/10.3390/antiox10121946>

The Biological Effects of Ozone Gas on Soft and Hard Dental Tissues and the Impact on Human Gingival Fibroblasts and Gingival Keratinocytes *Processes* 2021, **9(11)**,

1978; <https://doi.org/10.3390/pr9111978>

Systemic Review: Ozone: A Potential New Chemotherapy *Int. J. Mol. Sci.* 2021, **22(21)**,

11796; <https://doi.org/10.3390/ijms222111796>

Comparison of the Efficacy of Dextrose Prolotherapy and Ozone in Patients with Knee Osteoarthritis: A Randomized Cross-Sectional Study *Appl. Sci.* 2021, **11(21)**,

9991; <https://doi.org/10.3390/app11219991>

Low Ozone Concentrations Differentially Affect the Structural and Functional Features of Non-Activated and Activated Fibroblasts In Vitro *Int. J. Mol. Sci.* 2021, **22(18)**,

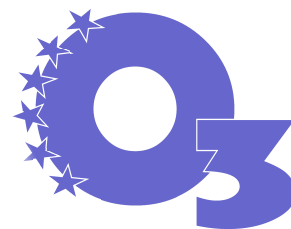
10133; <https://doi.org/10.3390/ijms221810133>

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Ozone as Modulator of Resorption and Inflammatory Response in Extruded Nucleus Pulposus Herniation. Revising Concepts *Int. J. Mol. Sci.* 2021, **22(18)**, 9946; <https://doi.org/10.3390/ijms22189946>

Ozonized Water Administration in Peri-Implant Mucositis Sites: A Randomized Clinical Trial *Appl. Sci.* 2021, **11(17)**, 7812; <https://doi.org/10.3390/app11177812>

Potential Short-Term Air Pollution Effects on Rheumatoid Arthritis Activity in Metropolitan Areas in the North of Italy: A Cross-Sectional Study *Int. J. Environ. Res. Public Health* 2021, **18(16)**, 8490; <https://doi.org/10.3390/ijerph18168490>

Ozone Gel in Chronic Periodontal Disease: A Randomized Clinical Trial on the Anti-Inflammatory Effects of Ozone Application *Biology* 2021, **10(7)**, 625; <https://doi.org/10.3390/biology10070625>

Application of Ozone Therapy in the Conservative Surgical Treatment of Osteonecrosis of the Jaw: Preliminary Results <https://doi.org/10.3390/proceedings2019035022>

Modulation of Oxidative Stress by Ozone Therapy in the Prevention and Treatment of Chemotherapy-Induced Toxicity: Review and Prospects *Antioxidants* 2019, **8(12)**, 588; <https://doi.org/10.3390/antiox8120588>

The Role of Nrf2 in the Antioxidant Cellular Response to Medical Ozone Exposure *Int. J. Mol. Sci.* 2019, **20(16)**, 4009; <https://doi.org/10.3390/ijms20164009>

A Systematic Review of Oxygen Therapy for the Management of Medication-Related Osteonecrosis of the Jaw (MRONJ) *Appl. Sci.* **2019**, 9(5), 026; <https://doi.org/10.3390/app9051026>

Intraperitoneal Administration of Oxygen/Ozone to Rats Reduces the Pancreatic Damage Induced by Streptozotocin
Biology **2018**, 7(1),10; <https://doi.org/10.3390/biology7010010>

Ozone In Medicine. The Low-Dose Ozone Concept and Its Basic Biochemical Mechanisms of Action In Chronic Inflammatory Diseases
Renate Viebahn-Haensler¹, Olga Sonia León Fernández²

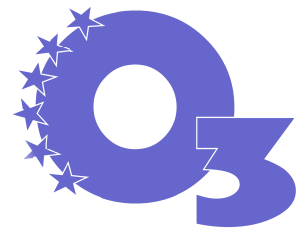
Int. J. Mol. Sci. 2021, **22**, 7890. <https://doi.org/10.3390/ijms22157890>

Abstract

Low-dose ozone acts as bioregulator in chronic inflammatory diseases, biochemically characterized by high oxidative stress and a blocked regulation. During systemic applications “Ozone peroxides” are able to replace H₂O₂ in its specific function of regulation, restore redox signaling and improve the antioxidant capacity.

Two different mechanisms have to be understood; in systemic treatments the indirect, ionic mechanism is to be discussed: “ozone peroxide” will be directly reduced by the glutathione system, informing the nuclear factors to start the regulation. The GSH/GSSG balance outlines the ozone dose and concentration limiting factor. Antioxidants are regulated, in case of inflammatory diseases up-regulated; cytokines are modulated, here downregulated. Rheumatoid arthritis RA as a model for chronic inflammation: RA -in preclinical and clinical trials- reflects the pharmacology of ozone in a typical manner: SOD (superoxide dismutase), CAT (catalase)... and finally GSH (reduced glutathione) increase, followed by a significant reduction of oxidative stress. Inflammatory cytokines are downregulated. Accordingly the clinical status improves.

The pharmacological background investigated in a remarkable number of cell experiments, preclinical and clinical trials, well documented and published in international peer reviewed journals, should encourage clinicians to set up clinical trials with chronic inflammatory diseases integrating medical ozone as a complement.



April 1, 2021

Aktuelles zum Medizinischen
Ozon und Corona

NEWS in Medical Ozone
and Corona

01042021

Was ist aktuell? Natürlich
Corona.

Unser Video Teil 6 widmet sich dem
Thema „Prävention“, das ist und wäre
die erstrebenswerteste Lösung, siehe
„Videothek“.

Inzwischen liegen einige Klinische
Studien vor, alle online frei zugänglich

Eine Kontrollierte Klinische Studie sei hier
erwähnt, weiter unten:

Die Rektale Insufflation in der
Rekonvaleszenz-Phase ist eine gute,
empfehlenswerte Anwendung, da hier
die ureigenen Wirkmechanismen des
Medizinischen Ozons genutzt werden, in
der 2. Arbeit ausführlich diskutiert:
**Immunmodulation, Redox-Regulation
und Erythrozyten- Aktivierung mit
verbessertem Sauerstoff-Durchsatz.**

*1. Amelioration of symptoms and
oxidative stress in hospitalized
convalescent post sars-cov-2 patients
treated with rectal ozone therapy and
nutritional supplementation”*

IJMPR 2020, 4(6), 94-107

Lizette Gil-del-Valle¹, Olga Elena López-Fernández,
Joniel Arnoldo Sánchez- Márquez², Zullyt Zamora-
Rodríguez et al.

<http://www.histoterapia-placentaria.cu/img/O3-OS-in-COVID19-UCI-2020-.pdf>

What is current? Corona, of
course.

Our Video part 6 is focused to **Ozone in
Virus Diseases?
Detoxification and Prevention**

Several clinical studies are published in
the meantime, available online free of
charge.

A controlled clinical trial using rectal
ozone insufflations in convalescent
patients is mentioned here, a method
which is a good recommendation as
ozone reveals its full efficacy:

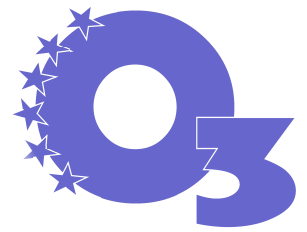
- immunomodulation
- redox regulation
- RBC metab. activation with
improvement of oxygen release

*1. Amelioration of symptoms and
oxidative stress in hospitalized
convalescent post sars-cov-2 patients
treated with rectal ozone therapy and
nutritional supplementation*

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<http://www.histoterapia-placentaria.cu/img/O3-OS-in-COVID19-UCI-2020-.pdf>



In aller Kürze:

Klinik: 32 Patienten, 16 mit Vitamingabe (10 Tage) als Kontrollgruppe, 16 mit zusätzlicher Rektaler Insufflation 2x täglich (12 Stunden Abstand) über 10 Tage, Ozon-Konzentration: 35 bis 40 $\mu\text{g/ml}$; Volumen: 200 ml.

Ergebnis: am Tag 5 waren 75 % der Ozongruppe virusnegativ, Kontrollgruppe 43 %. Verbesserung der hämatologischen Indikatoren entsprechend.

2. Medical Ozone: The Pharmacological Mechanisms Accounting for its Effectiveness against COVID-19 / SARS-COV-2

Olga S. León Fernández, Gabriel Takon Oru, Renate Viebahn Hansler, Gilberto López Cabreja, Irainis Serrano Espinosa, Juan Carlos Polo Vega, Elizabeth García Fernández
Clin Res & Rev. 2021; 5(3): 1-10

<https://scivisionpub.com/pdfs/medical-ozone-the-pharmacological-mechanisms-accounting-for-its-effectiveness-against-covid19sarscov2-1581.pdf>

In short:

Clinic: Controlled Clinical Trial, n = 32; Control group: n= 16 with vitamin treatment. Ozone group: n = 16 patients with vitamin treatment plus rectal ozone insufflation twice per day during 10 days. Concentration: 35 bis 40 $\mu\text{g/ml}$; volume 200 ml. **Result:** 75 % of the patients in the ozone group were virus negative on day 5, compared to 43 % in the control group. Improvement of the corresponding hematological indicators, discussed extensively in:

2. „Medical Ozone: The Pharmacological Mechanisms Accounting for its Effectiveness against COVID-19 / SARS-COV-2“

Olga S. León Fernández, Gabriel Takon Oru, Renate Viebahn Hansler, Gilberto López Cabreja, Irainis Serrano Espinosa, Juan Carlos Polo Vega, Elizabeth García Fernández
Clin Res & Rev. 2021; 5(3): 1-10

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