

Case report

Minor ozonized autohemotherapy in a 2 year old boy with speech delay and cytomegalovirus infection: a case report

Dr. Hirani Karima. MD

Venice Bl. Culver City, California

Keywords

autism,
speech delay,
ozone,
minor
autohemotherapy,
cytomegalovirus
infection.

Abstract

The prevalence of congenital cytomegalovirus (CMV) and various other infections in autism has been reported. While many factors like genetics play a role, prenatal exposure to maternal infections like CMV may influence autism spectrum disorders. A two year old boy was seen in my office with speech delay. He was treated with 8 ozone injections or minor autohemotherapy weekly for a CMV infection and showed clinical improvement in speech. Ozone therapy represents a potentially novel method to treat infections related to autism and speech delay safely...

Suggestion on how to quote this paper:

Karima, Hirani. (2018). Minor ozonized autohemotherapy in a 2 year old boy with speech delay and cytomegalovirus infection: a case report., *Revista Española de Ozonoterapia*. Vol. 8, nº 1, pp 165-169

Background

Autism is a neurodevelopmental disorder characterized by severe communication, social and behavioural abnormalities. In addition to cytomegalovirus infection CMV, various other infections have also been reported on and discussed, including mycoplasma and even tick-borne infections in autism. The immune system is dysregulated in autism, with increased expression of genes that lead to oxidative stress and inflammation.

Ozone has long term anti-inflammatory and immunomodulating effects, including stimulation of internal antioxidants. It has been studied in many conditions including heart disease, lumbar disc disease, muscular dystrophy, rheumatoid arthritis and more. It is antibacterial and antiviral. To date there are no preclinical or clinical studies on the use of ozone in autism spectrum disorders.

This case report is the first of its kind to show a beneficial response of ozone in a child with speech delay.

Case Presentation

The patient was a two year old boy diagnosed with speech delay and at risk for autism. Lab testing done at my office found an active infection with CMV. The IGM was elevated at 1.14ng/ml (negative value is ≤ 0.79 ng/ml) through medical diagnostics laboratories (www.mdlab.com). It is not clear exactly how long the patient may have had this infection. His parents agreed to come for 8 weekly ozone injections. This consisted of removal of 5 ml of blood intravenously and mixed for 30 s with an equal amount of ozone at a concentration of 15ug/Nml using the Ozonette (sedecal, spain). This was then slowly injected intramuscularly in the gluteal muscle (minor autohemotherapy). During the course of the treatments, the parents noticed a significant improvement in his speech. He was more clear minded, happier and energetic. He was more alert especially on the day of treatment. He had no side effects from this treatment.

Discussion

Autism spectrum disorders is a neurodevelopmental disorder whose pathophysiology is unclear. One possible etiology involves the presence of infections¹⁻³ Two year old boy diagnosed with speech delay and an infection with CMV. He was treated with injections of ozone and autologous blood, weekly. After 8 weeks he had subjective improvement.

Currently there are limited available medical treatment options for autism spectrum disorders. Risperidone and Aripiprazole are the only drugs approved by the FDA for the treatment of behavioural problems in children with autism.⁴ There is plenty of scientific evidence supporting the use of ozone in medicine. Ozone is immunomodulating, anti-inflammatory, antiviral and antibacterial. It stimulates in the body it's own production of endogenous antioxidants. It is safe, with minimal side effects.⁵

In autism, there is immune dysregulation, inflammation, oxidative stress, decreased availability of antioxidants, and also the presence of infections.^{1-3,6-8} Ozone therapy has the potential to address all of these abnormalities.⁵ It can reduce inflammation and oxidative stress.⁹ Ozone can function as an immunomodulator.¹⁰ In autism, the healing process has gone awry. Minor autohemo therapy (miAHT) has the potential to restore the natural healing process.¹¹ Ozone has been shown to improve redox balance.¹² miAHT has been studied in limb ischemia and Raynaud's syndrome.^{10,13}

Conclusions

This case, of a patient is of particular interest, in that it is the first of its kind demonstrating the possible therapeutic value of ozone, particularly miAHT in the treatment of autism spectrum disorders. It is an invitation to other clinicians and researchers to study ozone in autism.

Competing Interests.

Dr. Karima Hirani declares she has no competing interests.

References

1. Prevalence of congenital CMV infection assessed through viral genome detection in dried blood spots in children with autism spectrum disorders. Gentile I, Zappulo E, Riccio MP, Binda S, Bubba L, Pellegrinelli L, Scognamiglio D, Operto F, Margari L, Borgia G, Bravaccio C. *In Vivo* 2017
2. Evidence for mycoplasma ssp., chlamydia pneumonia and hhv-6 co-infections in the blood of patients with autism spectrum disorders. Nicolson GL, Gan R, Nicolson NL, Haier J.. *J Neurosci Res* 2007
3. The association between tick-borne infections, lyme borreliosis and autism spectrum disorders. Bransfield RC, Wulfman JS, Harvey WT, Usman AI. *J Med Hypothesis* 2008
4. Review of the pharmacotherapy of irritability of autism. Elbe, Lalani J. *J Can Adolesc Psych* 2012.
5. Research hypothesis in autism. The role of therapeutic ozone. Dario Siniscalco and Carlo Luongo. *Autism-Open Access* 2015
6. Impaired synthesis and antioxidant defense of glutathione in the cerebellum of autistic subjects: Alterations in the activities of protein expression of glutathione-related enzymes. Gu F, Chauhan V, Chauhan A.. *J Free Radic Biol Med* 2013
7. Maternal cytomegalovirus seropositivity and autistic symptoms in children. Slavitsky BL, Talge N, Ingersoll B, Smith A, Glazier A, Kerver J, Paneth N, Racicot K. *Am J Reproductive Immunol* 2018
8. Reduced Endogenous Urinary Antioxidant Power and its Relation to Plasma Antioxidant Activity of Superoxide Dismutase in Individuals with Autism Spectrum Disorder. Yui K, Tanuma N, Yamada H, Kawasaki Y. *Int J Neurodevelopmental Neurosci* 2018
9. Medical ozone promotes nrf2 phosphorylation reducing oxidative stress and pro-inflammatory cytokines in muscular dystrophy patients. Delgado-Roche L, Riera-Romo M, Mesta F, Hernandez-Matos Y, Barrios JM, Martinez-Sanchez G, Al-Dalaien SM.. *Eur J. Pharmacol* 2017
10. Use of a nonspecific immunomodulation therapy as a therapeutic vasculogenesis strategy in no-option critical limb ischemia patients. Marfella R, Luongo C, Coppola A, Luongo M, Capodanno P, Ruggiero R, Mascolo L, Ambrosino I, Sardù C, Boccardi V, Lettieri B, Paolisso G. *Atherosclerosis* 2010
11. Can the combination of localized “proliferative therapy” with “minor ozonated autohemotherapy” restore the natural healing process? Gracer RI, Bocci V. “Medical Hypothesis” 2005
12. Medical ozone increases methotrexate clinical response and improves cellular redox balance in patients with rheumatoid arthritis. Leon Fernandez OS, Renate Viebahn-Haensler B, Gilberto López Cabreja C, Irainis Serrano Espinosa C, Yanet Hernández Matos A, Liván Delgado Roche D, Beatriz Tamargo Santos A, Gabriel Takon Oru A, Juan Carlos Polo Veg. *Eur J. Pharmacol* 2016

13. Treatment of severe raynaud's syndrome by injection of autologous blood pretreated by heating, ozonation and exposure to uv light (H-O-U) therapy. Cooke ED, Pockley AG, Tucker AT, Kirby JD, Bolton AE. Int Angiol 1997
14. Schwartz Adriana et al. Manual de Ozonoterapia Clínica, Medizeus S.L., ISBN: 2017: 978-84-617-9394-5.