

Study finds potential in nerve block treatment for smell distortions

July 13 2023, by Prabhjot Sohal



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Imagine taking the first sip of your morning coffee, only to be hit by an overwhelming, gut-churning stench. This altered sense of smell is a reality for many living with a post-COVID smell dysfunction called

parosmia—a disorder that twists even comforting smells into repulsive ones.

While post-COVID parosmia wreaks havoc on both physical and mental well-being, data on its symptoms, progression, effect on the quality of life and effectiveness of treatment options is sparse.

A recent study by Western researchers Dr. Leigh J Sowerby, Dr. Zaid Almubarak, Dr. Ameen Biadsee and Taciano Rocha, offers crucial insights into some key characteristics and treatment options for post-COVID parosmia.

The study, published in *The Journal of Laryngology & Otology*, identifies stellate ganglion block (SGB)—a procedure involving injecting a [local anesthetic](#) into the stellate ganglion, a collection of nerves in the neck—as a possible effective treatment to help alleviate the distorted sense of smell in patients.

"The stellate ganglion controls sympathetic signals to the head, neck, arms and part of the chest. Temporarily blocking these signals through an anesthetic injection could alleviate the distorted [sense of smell](#) in patients as it appears that part of the problem is in how the brain is perceiving the signal," said Sowerby, associate professor in the Department Of Otolaryngology–Head and Neck Surgery at Western's Schulich School of Medicine & Dentistry.

"It's a procedure with minimal risk and of all the strategies patients have tried, from smell training to nasal corticosteroid sprays, SGB appears to be the most effective in treating post-COVID parosmia."

For this study, 209 [adult patients](#) registered with two social media groups—AbScent and Facebook COVID anosmia/parosmia were surveyed.

Most respondents were based out of the U.S. According to Sowerby, the senior author of the study, this problem is under-recognized and under-treated, which is why the researchers had to rely on an [online survey](#). Sowerby and his team are now looking to conduct a clinical trial to get further insights.

"This survey is the first step to get more data on patients and their experiences. Further research is needed to understand the efficacy and the benefit of SGB for post-COVID parosmia," he said.

According to the [survey results](#), smell training emerged as the most commonly adopted treatment option, trialed by 74% of the patients. This was followed by the use of nasal corticosteroid sprays and vitamin A drops, taken by 49% and 20% of patients, respectively.

Interestingly, while only 16% of patients underwent SGB therapy, it showed the highest effectiveness, with a substantial 45% of these patients reporting significant improvement.

SGB is primarily used to diagnose and treat chronic neuropathic pain conditions linked to the sympathetic nervous system, such as complex regional pain syndrome and phantom limb pain. In addition to pain management, SGB has been employed to address circulation problems and various nerve injuries. Moreover, it's currently being investigated for its potential role in treating mental health conditions like post-traumatic stress disorder (PTSD), depression, and anxiety.

Parosmia's impact on quality of life

The findings of the study showed that patients predominantly reported a loss of smell about three days after their initial COVID-19 symptoms, a recovery around four weeks later and the onset of parosmia symptoms approximately 12 weeks post-infection. A total of 42% reported no

improvement in their condition and 22 percent experienced slight improvement. Only 3% of respondents reported a full recovery. Interestingly, the study found 80% of the respondents with parosmia were not vaccinated against COVID-19 at the time of infection.

The findings also revealed that post-COVID parosmia had a serious impact on patients' quality of life, with depression, appetite loss, significant weight loss and even suicidal thoughts reported among sufferers. Common food items like onion and garlic were reported as the top triggers for parosmia.

"The psychological impact of parosmia is substantial, with depression being the most reported condition," said Sowerby.

"More than half of our respondents, 54%, reported a significant impact on the quality of their life. There's a clear need to identify effective treatment strategies and improve the lives of these patients."

Top 10 triggers for parosmia

- Onion
- Garlic
- Meat
- Coffee
- Chicken
- Eggs
- Peanut butter
- Chocolate
- Fried foods
- Perfume

Parosmia's impact on the body and mind (From most

reported to least reported)

- Depression
- Loss of appetite
- Weight loss
- Anxiety
- Weight gain
- Nausea
- Frustration
- Low energy
- Mood swings
- Suicidal thoughts

More information: Leigh J Sowerby et al, COVID-19-Related Parosmia: An Exploratory Survey of Demographics and Treatment Strategies, *The Journal of Laryngology & Otology* (2023). [DOI: 10.1017/S0022215123000713](https://doi.org/10.1017/S0022215123000713)

Provided by University of Western Ontario

Citation: Study finds potential in nerve block treatment for smell distortions (2023, July 13) retrieved 27 April 2024 from <https://medicalxpress.com/news/2023-07-potential-nerve-block-treatment-distortions.html>

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