



CACP Stellate Ganglion Block (SGB) Injections for PTSD

Content created by, the Canadian Association of Chiefs of Police (CACCP) and their Psychological Services Subcommittee

Introduction

Stellate Ganglion Block (SGB) injections, also known as cervical sympathetic block injections, are being promoted as an alternative treatment for persons suffering from Post-Traumatic Stress Disorder (PTSD) where treatment responses have been reported as sub-optimal. SGB injections have been used in the treatment of certain physical health issues such as complex regional pain syndrome, Raynaud's phenomena, and other pain management issues impacting the upper extremities; however, applying SGB injections as an attempt to treat PTSD has gained interest in recent years.

Procedure and Theory

SGB injection is an outpatient procedure typically performed by an anesthesiologist or physician specializing in pain management. The injection is delivered to a cluster of nerve cells, the stellate ganglion, located between the C6 and C7 vertebrae (i.e., in the lower neck). The injection inhibits transmission of sympathetic nerve impulses to the head, neck, and upper extremities. The application of SGB for PTSD is derived from a theory that certain areas of the brain associated with particular sympathetic nerve impulses become overactive in patients with PTSD; nevertheless, the actual mechanism by which SGB may or may not interact with this pathway is not well understood.

Appeal

The appeal of SGB as a treatment for PTSD may be related to marketing the injection as a potentially rapid-acting, biologically-based treatment for a complex and often debilitating mental health issue. The offer of a potentially simple and long-term solution may be particularly appealing for patients who want to avoid stigma that may be associated with conventional treatments, such as psychotherapy, or patients who want a treatment option that promises faster results with little to no maintenance or follow-up treatments.

Current Research

There have been very few controlled studies of the effectiveness of SGB injections as a treatment for PTSD. Much of the evidence cited by clinics offering SGB in the United States comes from small ($n = 2$ to $n = 30$) and uncontrolled case studies that lack the rigorous methodology necessary to draw meaningful conclusions regarding the impact, if any, of SGB injections on PTSD. For example, administering SGB treatments without assessing whether PTSD symptoms change. One randomized control trial (RCT), containing 42 participants, has been conducted on SGB using rigorous research methods comparing two groups of patients who each received different treatments. One group received SGB and another group received a placebo injection of saline solution. Participants did not know to which treatment group they were assigned. The RCT results indicated there were no differences in

reported symptom changes between participants in the group who received SGB and those who received the placebo. Beyond this RCT, there have been very few controlled studies on SGB for PTSD, leaving many questions about effectiveness, short- and long-term risks, and which types of symptom profiles, if any, may be best suited for SGB treatments. Clinical trials are currently underway in the U.S. and Europe to help improve the understanding of SGB as a possible treatment for PTSD.

Conclusions

Awareness of SGB injections for the treatment of PTSD is beginning to grow in the United States, which has drawn the attention of first responders and other PSP in Canada; however, right now there is no empirical evidence that SGB is an effective PTSD treatment. Without evidence, SGB is not an evidence-based, or even evidence-informed, method of treatment. Importantly, there is also substantial uncertainty regarding any potential harm from SGB and we do not know if patients receiving SGB are at risk for adverse short- or long-term side effects. Given the lack of an evidence base for this treatment, it would be prudent to only consider such a treatment when several evidence-based treatments have been tried and found unsuccessful and even then only when the treatment is part of systematic research trial.

References & Further Reading

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