Vagus Nerve Stimulation Therapy In Lennox-Gastaut Syndrome

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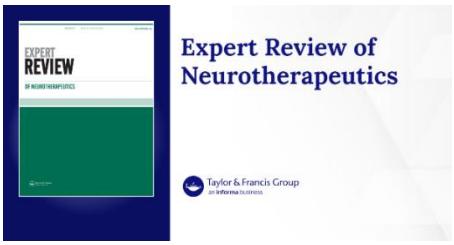

Lennox-Gastaut syndrome (LGS) is a neurological condition associated with severe **epilepsy** in young children, a loss of developmental skills and abilities, multiple **seizure** types, and often a poor response to **antiseizure medications**. One potential approach to treat LGS is **vagus nerve stimulation (VNS) therapy**. This plain language summary presents the results of an international study that looked at how well VNS therapy could help manage seizures in people with LGS and improve their quality of life.The researchers collected data from patients who received VNS therapy for two years after the system was first implanted. Most patients in the study were children with severe cognitive impairment (defined as problems with thinking, learning, problem-solving, memory, or other mental processes) who were still experiencing seizures even after trying at least two and up to 17 antiseizure medications.VNS therapy was able to help reduce the number of seizures patients had, including the types of seizures that may cause a loss of muscle control or cause muscle movements that lead to falls. These falls can result in injuries, leading to a possible emergency room visit or a stay in a hospital. Reducing the number of falls and related hospital visits can help improve patients' quality of life. As researchers expected, based on findings from past studies, VNS therapy was safe, with just a few patients having mild side effects such as slight changes in their voice, coughing, or neck and throat discomfort or pain .**Why is this study important?**LGS can cause life-long disabilities in patients and is difficult to treat. Therefore, studying how therapies like VNS therapy may help reduce the frequency of seizures can provide key information for making treatment decisions. Few studies have been able to collect a large amount of data from people living with LGS over multiple years, so results from this sizeable 24-month study will provide important information on how long-term VNS therapy may help treat patients with LGS. **What are the key takeaways and the main conclusion?** This study included 60 patients and examined how VNS therapy might improve symptoms in patients with LGS for up to two years after the VNS therapy system was first implanted. The VNS therapy system can use 'scheduled programming,' in which the device can be programmed in advance to increase the electrical current at preset times to reach the target dose (the electrical current level recommended by the maker of the VNS system to achieve the best outcome). More patients with LGS used scheduled programming to achieve this effective dose than patients with other types of epilepsy did in the larger Comprehensive Outcomes Registry in Subjects With Epilepsy Treated With Vagus Nerve Stimulation Therapy (CORE-VNS) study, which may have helped them achieve the target dose faster. VNS therapy helped reduce all types of seizures in people with LGS. The reduction in seizure frequency seen in patients, particularly regarding the types of seizures that can result in falls and hospital visits, along with the improvement in quality of life after treatment, supports the use of VNS therapy for people with LGS.

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