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Oral Presentation

Vague Nerve Stimulation

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Abstract

VNS indications

Epilepsy

VNS Therapy system is indicated for use as an adjunctive therapy in reducing the frequency of seizures in patients whose epileptic disorder is dominated by partial seizures (with or without secondary generalization) or generalized seizures that are refractory to antiepileptic medications.

Depression

VNS Therapy is indicated for the adjunctive long-term treatment of chronic or recurrent depression who are experiencing a major depressive episode and have not had an adequate response to four or more antidepressant treatments.

Mechanism of action

VNS definitely exerts an effect via the LC (norepinephrine) and the RN (serotonin)
These mechanisms of action are similar to those of medications through pharmacologic pathways
The LC and RN/DRN have been conclusively identified as:
Brain centers affected by VNS Therapy
Playing a role in suppressing seizures
Areas that must be intact for VNS Therapy to have an effect

VNS Safety Profile

More than 70,000 patients worldwide have been implanted with VNS Therapy
No known interactions with medications
No reported systemic neurotoxic effects, rash, renal impairment, or bone marrow suppression
No increase in sudden, unexpected death in epilepsy (SUDEP)1
Gestational outcomes
Animal study has shown no evidence of impaired fertility or harm to the fetus due to VNS Therapy2,3
Pregnancies have gone to term with VNS4,5

One of my challenging Cases which resulted in Vague Nerve Stimulation (VNS) therapy

53-year-old Right-handed gentleman with History of epilepsy since 1983 (due to being injured during war) in form of CPS and GTCs
We implanted VNS for the first time in Khatam-Al-Anbia hospital about three months ago for this patient.
The frequency of the patient's attacks has been decreased to about eighty percent till now.
No significant side effects have been reported except for mild hoarseness.

Keywords: VNS Therapy, Epilepsy, Systemic Neurotoxic Effects.

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