SPHENOPALATINE GANGLION STIMULATION FOR CHRONIC HEADACHE TREATMENT

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CHRONIC HEADACHES

- Include both chronic migraines and cluster headaches
- Affect 2-5% of the general population
- Detrimental to quality of life
CURRENT TREATMENT

• Injectable sumatripan, oxygen inhalation

• These methods can be impractical

• Current methods provide only relief, not a decrease in chronic headache frequency
SPHENOPALATINE GANGLIA (SPG)

- Parasympathetic ganglia, connects to the lacrimal glands and nasal mucosa
- Cluster headaches caused by interaction between SPG and the trigeminal nerve
- Trigeminal pain pathway is triggered, causing further parasympathetic outflow in a feedback loop.
ATI SPG NEUROSTIMULATOR

• Surgically implanted through the mouth near the SPG

• Remote controlled to allow the patient to activate the device when they feel symptoms

• Electrical stimulation seeks to block neurotransmitters to halt the parasympathetic feedback loop.
CLINICAL STUDY

- 28 patients were fitted with the device, and a total of 566 headaches were treated.

- 67.1% of treated attacks achieved pain relief after 15 minutes

- 18 of the patients experienced reduced headache frequency after treatment
LIMITATIONS

- Complications with surgery, including infections
- Electrodes can become dislodged
- Effective frequency varies per person
- Slightly less effective than sumatripan and oxygen
FUTURE

• Further clinical trials will provide information on effective frequencies

• Once on the market, this device could provide a greater quality of life for chronic headache sufferers

• Similar treatment styles could be used to treat other illnesses
REFERENCES

• Schoenen, Jean et al. “Stimulation of the Sphenopalatine Ganglion (SPG) for Cluster Headache Treatment. Pathway CH-1: A Randomized, Sham-Controlled Study.” *Cephalalgia* 33.10 (2013): 816–830. PMC. Web. 30

