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# "Evaluating the Effect of SPG Block on Post-Operative Pain Following Functional Endoscopic Sinus Surgery"

**Introduction:** Post-operative pain associated with a functional endoscopic sinus surgery (FESS), commonly performed for chronic rhinosinusitis (CRS) and other pathologies, remains a clinical challenge. Options such as a sphenopalatine ganglion (SPG) block injection are being explored to mitigate the need for opioids postoperatively. This study investigates the efficacy of intraoperative local anesthetic administration within two groups: topical anesthetic with or without a SPG block injection.

**Objective:** This study aims to evaluate the potential for pain reduction with addition of postoperative SPG block. Topical anesthetics administered intra-operatively via soaked pledgets are common for post-FESS pain reduction. SPG block targets the pterygopalatine fossa, where the SPG resides, to ensure a more complete nerve blockade with enhanced duration as compared to topical anesthetics alone. To ensure complete intra-operative block of the SPG, both the anesthetic-soaked pledgets and the SPG block injection will be paired, potentially offering a longer duration of analgesia than pledgets alone.

**Methods:** This study is a prospective, single-blinded, randomized controlled trial of patients undergoing FESS for various sinonasal conditions. Patients are assigned to two groups: (1) topical pledgets soaked in ropivacaine and epinephrine, and (2) the same topical regimen along with a SPG block via injection of ropivacaine at the conclusion of the operation. Primary outcome measures will be postoperative pain along with postoperative opioid utilization. The subjective pain of each patient is determined by utilizing a numerical pain rating scale (NPRS) before and after FESS. Postoperative narcotic utilization will be recorded by pill counts at postoperative follow up visits. Secondary outcomes include improvement in quality of life measures, evaluated with the SNOT-22 questionnaire. Postoperative data will be collected on the day of surgery and at 1 day, 4-5 days, and 3 weeks postop.

**Conclusion:** Optimizing postoperative analgesia after FESS may reduce narcotic use and improve patient comfort. This study will determine if a topical anesthetic paired with a SPG block could improve pain outcomes of a FESS while decreasing opioid requirements in the post-operative period.