DNA 2026 – Abstract Submission

Title:
Two-Step Sphenopalatine Ganglion (SPG) Modulation Using Intranasal Lignocaine and Oxygen Therapy for Acute Stroke-Related Headache: A Prospective Case Series

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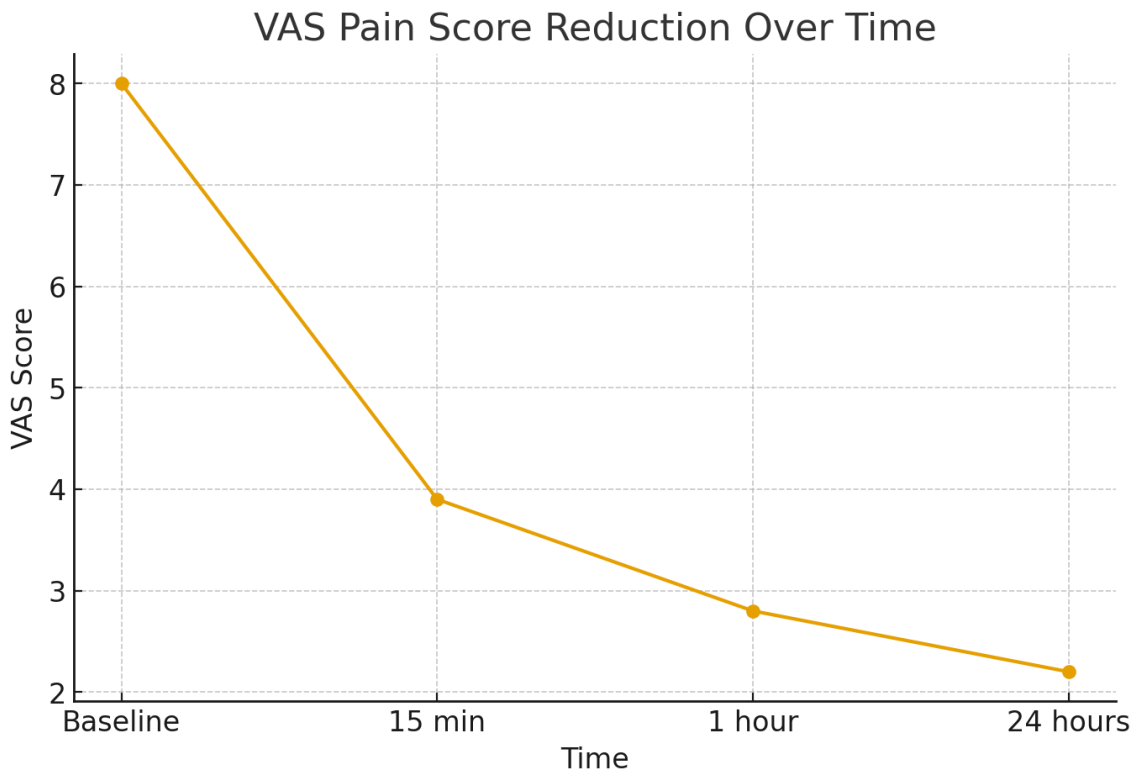
Objective: Headache during acute ischemic and haemorrhagic stroke is common but often insufficiently responsive to routine analgesics. To evaluate the safety and efficacy of a two-step SPG modulation protocol intranasal SPG lignocaine anaesthesia followed by oxygen therapy in patients with acute stroke-related headache.

Methods: This prospective case series included 40 consecutive acute stroke patients (Jan 2024–Oct 2025) presenting within 72 h of onset with moderate–severe headache (VAS ≥6) unresponsive to initial analgesics. Step 1: A transnasal SPG block was performed using cotton-tipped applicators soaked in 2% lignocaine. Step 2: Patients immediately received high-flow oxygen via non-rebreathing mask (8–10 L/min for 10–15 min), aimed at enhancing autonomic deactivation and cranial vasoconstriction. VAS pain scores were documented at baseline, 15 min, 1 h, and 24 h. Neurological stability and adverse events were monitored.

Results: Mean age was 57.9 ± 10.1 years; 60% male. Baseline VAS 8.0 ± 1.0 reduced to 3.9 ± 1.2 at 15 min (**$p<0.001$**), 2.8 ± 1.1 at 1 h, and 2.2 ± 0.9 at 24 h. 35 of 40 patients (87.5%) reported marked (**>50% pain reduction**) or complete improvement. No patient showed neurological worsening. Minor transient effects included nasal irritation (20%), tearing (15%), and mild light-headedness (7.5%). No significant cardiorespiratory or bleeding complications were recorded.

Conclusion: The two-step SPG modulation protocol provides rapid, sustained relief in acute stroke-related headache with an excellent safety profile. This combined approach may represent an effective adjunct in early stroke care. Controlled trials are needed to validate patient selection criteria.


VAS Pain Score Reduction Over Time
VAS Score
8
7
6
5
4
3
2
Baseline
15 min
1 hour
24 hours
Time