

Headache pathophysiology: clinical

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CRANIAL AUTONOMIC SYMPTOMS IN CLUSTER HEADACHE INDUCED BY NITROGLYCERIN

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Introduction: Cluster headache (CH) is characterised by attacks of unilateral excruciating headache, ipsilateral cranial autonomic symptoms (CAS) and/or agitation. Studying CAS can further our understanding of CH pathophysiology, but is limited by the episodic nature of the disease. Nitroglycerin (NTG) is known to induce CH.

Objectives: The aim of this study is to characterise CAS induced by NTG.

Methods: CH patients received intravenous NTG 0.5mcg/kg/min over 20 minutes. CAS and headache phenotype were recorded. The study was approved by the NHS Research Ethics Committee.

Results: Twenty-three patients participated: 83% male and 61% episodic cluster headache. The most common spontaneous CAS reported were lacrimation, nasal congestion and conjunctival injection. Agitation was reported in 96%. Nitroglycerin induced ipsilateral CAS in 91% of the patients, with 74% with ipsilateral pain. Most commonly induced CAS were nasal congestion, lacrimation and periorbital swelling. Agitation was reported in 61%. The majority of the CAS (80%) induced by NTG presented before the onset of severe pain.

Conclusion: We demonstrate that NTG effectively triggers ipsilateral cranial autonomic symptoms in CH patients and that they often present in a phase before the onset of pain reflecting the underlying pathways during a cluster headache attack.

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