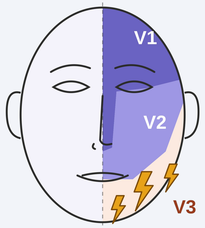


Beyond agranulocytosis: Carbamazepine-induced DRESS after treatment of post-extraction facial pain

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Phenotype first

Post-extraction pain with features atypical for classical trigeminal neuralgia



V1/V2: continuous pressure and aching, with sensory change

Toward V3: brief electric shock-like paroxysms

Results: clinical course

≈ 2 months of carbamazepine exposure before shock

Dec 2025	Apr 2026	Escalation	Within days	~2 weeks later	Hospital	Day 9
Tooth extraction	**Carbamazepine started**	**Dose increased**	**Pruritic urticarial rash**	**Hypotension, syncope**	**Carbamazepine stopped**	**Discharged**
Immediate, persistent facial pain	200 mg twice daily for presumed trigeminal neuralgia	200 mg each morning + 400 mg nightly for breakthrough pain	Groin/inner thighs → back and upper extremities, despite antihistamines and outpatient corticosteroids	SBP 60–70 mm Hg. 4 L crystalloid, then norepinephrine and ICU. Afebrile; no mucosal or facial swelling	Methylprednisolone 60 mg IV twice daily, topical steroids, antihistamines, supportive care. AKI improved	Gabapentin 300 mg three times daily controlled facial pain

Shock considered multifactorial: Systemic drug reaction (DRESS) · Anaphylaxis · Diarrheal hypovolemia

Facial pain · Carbamazepine exposure · Cutaneous reaction · Shock / ICU · Withdrawal and recovery

Take-home

Phenotype post-extraction facial pain before escalating neuralgia-directed therapy.

Suspect DRESS 2–8 weeks after carbamazepine starts — even without fever or early eosinophilia.

Prior corticosteroids may modify and delay the presentation.

Outcome: carbamazepine withdrawn; gabapentin 300 mg TID controlled facial pain.

Introduction

Continued facial pain after dental procedures may be misclassified as classical trigeminal neuralgia. Carbamazepine is effective for trigeminal neuralgia but can cause drug reaction with eosinophilia and systemic symptoms (DRESS). We report an afebrile, steroid-modified presentation with progressive rash, eosinophilia, multiorgan abnormalities, and vasopressor-dependent shock after carbamazepine escalation, emphasizing diagnostic phenotyping, serial DRESS assessment, and competing causes of hemodynamic collapse.

Materials and methods

This de-identified case was reviewed retrospectively. Institutional review board review was waived for this retrospective chart review, and the patient provided consent for research use. Medication chronology, examination, serial laboratory data, imaging, treatment, and outcome were abstracted. DRESS probability was evaluated with RegiSCAR, though it remained provisional. Carbamazepine was prescribed for a working diagnosis of trigeminal neuralgia/atypical facial pain. The extraction-linked phenotype included continuous V1/V2 pressure and aching with sensory change, plus brief electric shock-like paroxysms toward V3.

Why DRESS?

Eosinophils **11.7% → 29.1%** rising	Creatinine **2.4 mg/dL** baseline 0.7 · AKI
Liver enzymes **ALT 85 · AST 41** U/L	CT **Axillary nodes** bilateral lymphadenopathy · diffuse edema

RegiSCAR: possible DRESS
Afebrile, steroid-pretreated course; classification remained provisional.

Discussion

Post-extraction facial pain requires phenotyping before escalation of neuralgia-directed therapy. DRESS should be considered when rash, fever, hematologic abnormalities, or organ injury arise 2–8 weeks after carbamazepine initiation, even without fever or early eosinophilia. Here, two months of exposure, evolving eosinophilia, organ abnormalities, and lymphadenopathy supported DRESS; prior corticosteroids may have modified the presentation. Although effective for trigeminal neuralgia, carbamazepine can cause serious multisystem toxicity that pain physicians must recognize promptly.

References

1. Bae SH, Shim GJ, Kwon TG. Diagnosis and management of persistent idiopathic facial pain following dental procedures: a retrospective study. J Korean Assoc Oral Maxillofac Surg. 2025;51(5):269-277. doi:10.5125/jkaoms.2025.51.5.269
2. Kardaun SH, Sekula P, Valeyrie-Allanore L, et al. Drug reaction with eosinophilia and systemic symptoms (DRESS): results from the prospective RegiSCAR study. Br J Dermatol. 2013;169(5):1071-1080. doi:10.1111/bjd.12501
3. Brüggen MC, Walsh S, Ameri M, et al. Management of adult patients with DRESS: a Delphi-based international consensus. JAMA Dermatol. 2024;160(1):37-44. doi:10.1001/jamadermatol.2023.4450
4. Bendtsen L, Zakrzewska JM, Abbott J, et al. European Academy of Neurology guideline on trigeminal neuralgia. Eur J Neurol. 2019;26(6):831-849. doi:10.1111/ene.13950