

Possible secondary adrenal insufficiency as a complication of epidural steroid injection: a case report

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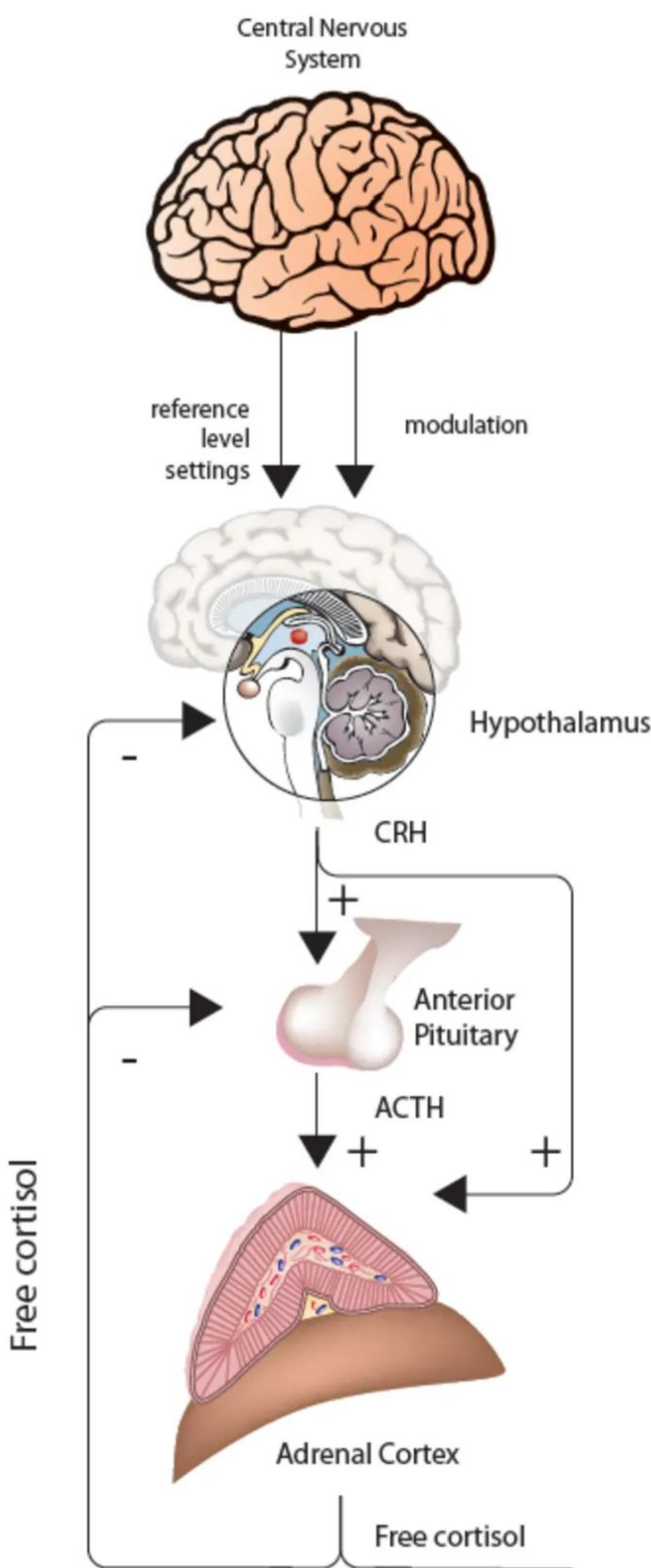
INTRODUCTION

- Epidural steroid injections (ESI) are common interventional pain procedures targeting conditions such as radiculopathy and spinal stenosis. In contrast to oral steroids, they provide localized delivery of medication to affected nerve roots, thus decreasing the likelihood of systemic side effects.
- Steroid-associated risks include central steroid response (insomnia, flushing, non-positional headache), hyperglycemia, epidural lipomatosis, and decreased bone mineral density [1,2].
- This case highlights adrenal insufficiency (AI), a delayed reaction to the steroid which may be overlooked.

CASE REPORT

- A 77-year-old male with a hx of diabetes mellitus, chronic kidney disease, and cervical radiculopathy underwent C7/T1 interlaminar ESI with 40mg of methylprednisolone under C-arm guidance.
- 9 days later, he presented to the ED with **lightheadedness, gastric reflux, headache, nausea, vomiting, and diarrhea**. Of note, he had recently been switched from amlodipine to lisinopril and had been taking calcium carbonate for reflux symptoms. On initial evaluation, he had **orthostatic hypotension, elevated creatinine, leukocytosis, hypercalcemia, and non-anion gap metabolic acidosis**. His hypotension and lab abnormalities improved following fluid resuscitation.
- On the day of discharge, interventional pain was contacted, and AI was considered as a potential contributing factor of his presentation. Further outpatient workup was initiated to evaluate this possibility.

FIGURE



<https://www.medcentral.com/pain/chronic/understanding-potential-complications-epidural-steroid>

CONCLUSION

- Suppression of the hypothalamic-pituitary-adrenal (HPA) axis due to systemic absorption of exogenous glucocorticoids after ESI is most prominent at 7 days post-injection with gradual return to baseline or near baseline after 21 days [1]. Increased steroid doses and repeated injections are associated with prolonged suppression [3]. However, its manifestation into AI is uncommon[4].
- Symptoms of AI: fatigue, anorexia, weight loss, nausea, vomiting, abdominal pain, and myalgias. Lab findings: anemia, lymphocytosis, eosinophilia, slightly increased TSH, hypoglycemia, and hyponatremia. Often nonspecific findings after ESI.
- Diagnosis is based on low morning cortisol or abnormal cosyntropin stimulation testing, and management involves glucocorticoid replacement in symptomatic cases or during periods of stress.
- Although uncommon, **AI should remain a consideration for patients who present with nonspecific complaints after undergoing ESI.**

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