

# A Case of Nivolumab-induced Hypophysitis in a 72-year-old Female with Metastatic Melanoma

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**Introduction:** Hypophysitis is a rare condition in which inflammation in the suprasellar region leads to pituitary gland insufficiency, affecting both its hormonal activity as well as potentially causing mass effect on surrounding structures (1). There are various etiologies of this condition including lymphocytic, granulomatous, IgG4-related, and xanthomatous, but it has been commonly confused for other pituitary conditions such as pituitary adenomas due to its similar presentation (2).

**Case Report:** We present a case of a 72-year-old female with metastatic melanoma of the lower extremity undergoing Nivolumab immunotherapy. She presented to her oncologist with notable hypotension and one week history of severe fatigue and dizziness, prompting an emergent workup. An MRI was performed and read as a pituitary adenoma, but the high suspicion of immunotherapy-related toxicity led to a CMP showing severe hyponatremia reaching 124 mmol/L, low cortisol, and low ACTH. These findings led to the rare diagnosis of Nivolumab-induced hypophysitis. She was started on prednisolone while in the hospital, but was switched to a tapering dose of hydrocortisone and referred to endocrinology upon discharge to further manage her adrenocortical insufficiency. Eventually, her dose of hydrocortisone was tapered down to physiologic dose and she was educated on the importance of adjusting her dose in the case of acute illness.

**Conclusion:** Immunotherapy has revolutionized the treatment of cancer over time, but with its remarkable improvements come immune-mediated side effects. Due to the immune-mediated nature of hypophysitis, it can be reasonably deduced that immunomodulation can predispose to its development. The long-term hormonal and systemic complications outlined in this case are severe enough to require hospitalization. The severity of complications highlights the importance of developing a high level of suspicion for treatment-related toxicity and in this case, an irreversible effect such as pituitary failure. However, identifying this complication early allowed for our patient to resume her treatment with

Nivolumab along with the supplementation of pituitary hormones, effectively treating both her pituitary dysfunction and her melanoma while reducing both morbidity and mortality.

## References

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