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Letter to the Editor

Letter to the Editor from Josef Finsterer: Co-Occurrence of Hypophysitis and Thyroiditis Induced by PD-L1 Inhibitor Avelumab

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Letter to the Editor

We read with interest the article by Zavgorodneva *et al*. about an 83-year-old man with stage IV metastatic high-grade papillary urothelial carcinoma treated with transurethral resection of the bladder, chemotherapy with carboplatin and gemcitabine and immunotherapy with avelumab, and urosepsis two weeks prior to admission due to nausea, mild lower abdominal pain, generalized fatigue, lethargy and disorientation [1]. He was diagnosed with avelumab-induced hypophysitis (ACTH and TSH deficiency) and thyroiditis, which partially recovered with corticosteroids, thiamazole, propranolol and discontinuation of avelumab [1]. The study raises several concerns.

The first point is that we disagree with the diagnosis of hypophysitis as mentioned in the title [1]. No specific tests were performed to document inflammation of the pituitary gland [1]. Cerebral magnetic resonance imaging (MRI) showed mild, nonspecific periventricular and suprasellar T2 prolongation with no obvious mass, but the pituitary gland was apparently normal on imaging [1]. Hypophysitis usually presents on MRI as enlargement of the pituitary gland or its stalk with nonspecific features that may mimic other pituitary lesions [2]. Characteristic MRI features include: a triangular or dumbbell-shaped gland, a thickened stalk, and the absence of the normal bright spot in the pituitary background (T1-weighted bright signal) [2]. In addition, hypophysitis may be associated with a homogeneous or heterogeneous contrast enhancement pattern after gadolinium administration [2]. Hypophysitis due to immune checkpoint inhibitors (ICIs) may particularly show T2-weighted pituitary lesions with low intensity in the anterior pituitary [3]. Another argument against hypophysitis is that only ACTH and TSH were decreased, while the other pituitary hormone levels were in the normal range [1]. A third argument against hypophysitis is that alternative causes of hypopituitarism have not been sufficiently ruled out. Primary hypophysitis can occur in isolation or in association with an autoimmune disease [4]. Secondary hypopituitarism may be caused by drugs, sella or parasella disease, systemic disease, malignancy or infectious disease [4]. Therefore, the pituitary dysfunction could also be paraneoplastic due to the urothelial carcinoma or recent infection two weeks before admission.

The second point is that we disagree with the diagnosis of thyroiditis [1]. The patient had a decreased TSH and an elevated T4, but antibodies to thyroglobulin, thyroid peroxidase and thyrotropin receptor antibodies were normal, and thyroid ultrasound showed only a small, heterogeneous thyroid gland without discrete nodules [1]. No results of radioisotope scans were reported [1].

The third point is that, contrary to the authors' claim, their report is not the first to report polyendocrinopathy following avelumab administration [1]. In 2018, Aziz *et al*. published the case of a 60-year-old man with metastatic gastric cancer who received avelumab after chemotherapy had been ineffective and developed side effects three months after starting immunotherapy [5]. He initially developed tachycardia, which was attributed to thyrotoxicosis, and after seven months of avelumab treatment he complained of fatigue, nausea and vomiting [5]. The latter symptoms were attributed to hypocorticism, which manifested as hyponatremia, atrophy of the adrenal cortex and decreased cortisol levels [5].

Before diagnosing hypophysitis due to avelumab, the diagnostic criteria must be met and all alternative causes of pituitary dysfunction must be thoroughly ruled out.

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References
1. Zavgorodneva Z, Khan M, Guber H. Co-Occurrence of Hypophysitis and Thyroiditis Induced by PD-L1 Inhibitor Avelumab: Clinical Insights. JCEM Case Rep, May 12, 2025; 3(6):luaf093. Doi: 10.1210/jcemcr/luaf093
2. Kurokawa R, Kurokawa M, Baba A, Nakaya M, Kato S, Bapuraj J, *et al*. Neuroimaging of hypophysitis: Etiologies and imaging mimics. Jpn J Radiol, Sep 2023; 41(9):911-927. Doi: 10.1007/s11604-023-01417-y
3. Kurokawa R, Ota Y, Gonoi W, Hagiwara A, Kurokawa M, Mori H, *et al*. MRI Findings of Immune Checkpoint Inhibitor-Induced Hypophysitis: Possible Association with Fibrosis. AJNR Am J Neuroradiol, Sep 2020; 41(9):1683-1689. Doi: 10.3174/ajnr.A6692
4. Prete A, Salvatori R. Hypophysitis. [Updated 2021 Oct 15]. In: Feingold KR, Ahmed SF, Anawalt B, *et al*., editors. Endotext [Internet]. South Dartmouth (MA): MDText.com, Inc., 2000. Available from: https://www.ncbi.nlm.nih.gov/books/NBK519842/
5. Aziz K, Shahbaz A, Umair M, Sachmechi I. Avelumab inducing hypothyroidism and hypoadrenalism: A case report and review of literature. EXCLI J, Jun 6, 2018; 17:526-530. Doi: 10.17179/excli2018-1357