

Immunotherapy can treat cancer and prevent future cancer relapse by enhancing the body's immune system. With novel immunotherapeutic agents like checkpoint inhibitors come unique immune-related adverse events. Hypophysitis, one of the lesser known immune-related complications, may be observed in patients receiving checkpoint inhibitors. Although the acute symptoms of immune-related hypophysitis may be managed with attentive monitoring and high-dose corticosteroids, lifelong hormone substitution therapy may be warranted. Oncology nurses are responsible for educating themselves and their patients on the complications of immunotherapy.

#### AT A GLANCE

- Early identification and treatment of hypophysitis is important in the management of patients receiving immunotherapy.
- Oncology nurses should educate themselves and their patients on the signs of hypophysitis.
- A thorough baseline history and physical examination are required of every patient receiving immunotherapy.

#### KEYWORDS

immunotherapy; hypophysitis; steroids; pituitary gland; immune-related adverse events

#### DIGITAL OBJECT IDENTIFIER

10.1188/17.CJON.154-156

# Hypophysitis

## Nursing management of immune-related adverse events

Adrienne Vazquez, MSN, ACNP-BC, AOCNP®

A 63-year-old female, R.B., presents for an evaluation prior to her fifth cycle of ipilimumab (Yervoy®) immunotherapy (IT) for advanced stage melanoma. She was first evaluated in the office by an advanced practice nurse (APN) to whom she reports recent changes in her level of activity. She is no longer able to stand for long periods of time: "I am so tired. I don't have the energy to take a shower without sitting in a bath chair." R.B. states that, during the past week, she has been having episodes of dizziness and headaches. The APN assesses the patient, reviews the case with the nurse, and orders a work-up consisting of a complete blood count, comprehensive metabolic panel, thyroid function tests, and magnetic resonance imaging (MRI) of the brain.

The results of the blood work show elevated thyroid-stimulating hormone and decreased thyroxine. The MRI of the brain reveals an enlarged pituitary gland, and immune-related hypophysitis is diagnosed by the APN. R.B. is started on systemic steroid treatment and a thyroid hormone replacement drug. As part of her evaluation, R.B. meets with the APN, who discusses the course of treatment, possible side effects, and expectations. The APN explains to R.G. that her IT treatment will be withheld because of the diagnosis of immune-related hypophysitis. Depending on how R.B. responds, she may be treated chronically with oral steroids. The APN emphasizes the importance of R.B. reporting any changes in her activity or performance status, because they may be relevant in the management of IT-related adverse events.

### Hypophysitis

One of the less common IT-related adverse events is hypophysitis, an inflammation of the pituitary gland (Vinken, Bruyn, & Klawans, 2014). In patients who are not on IT, hypophysitis is a rare and not fully understood condition (Torino, Barnabei, de Vecchis, Salvatori, & Corsello, 2012). The incidence of hypopituitarism is 4.2 cases per 100,000 each year, with hypophysitis being among the rarest cause (Torino et al., 2012). The pituitary gland regulates and secretes hormones that affect different parts of the body, and is responsible for the production of growth hormones, regulation of the endocrine system, and storage of hormones produced by the hypothalamus (Porter, Kaplan, & Beers, 2006).

When the pituitary gland becomes inflamed, as in hypophysitis, normal body functions may be altered. Ongoing research continues to investigate how the pituitary gland is injured. Although hypophysitis is not one of the more common adverse events of patients on IT, healthcare providers must familiarize themselves with it. Reports have shown that hypophysitis in patients treated with IT occurs in 0.6% of patients receiving pembrolizumab (Keytruda®) (Merck Sharp & Dohme Co., 2016), 0.6% of patients receiving nivolumab (Opdivo®) alone (Bristol-Myers Squibb Company, 2017), and 9% of patients receiving nivolumab and ipilimumab (Bristol-Myers Squibb Company, 2017). To date, no data support a higher prevalence of hypophysitis in certain genders, races, or past medical histories.

The advancement of cancer treatments through the use of new immunotherapeutic agents is changing the care management of patients with cancer. In the past five