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DOI: https://doi.org/10.5114/reum/219184

Pituitary involvement in granulomatosis with polyangiitis: case report

Melania Bojar[1,2], Wiktor Patyra[1,2], Julia Dąbrowska[1,2], Mateusz Suszek[1,2], Dorota Suszek[1,2], Bożena Targońska-Stępniak[1,2]

[1]Department of Rheumatology and Connective Tissue Diseases, Medical University of Lublin, Poland

[2]Student Scientific Group at the Department of Rheumatology and Connective Tissue Diseases, Medical University of Lublin, Poland

Key words: granulomatosis with polyangiitis, hypophysitis, hypopituitarism, ANCA-associated vasculitis, cyclophosphamide

Introduction: Granulomatosis with polyangiitis (GPA) is a multisystem disease characterised by necrotising small-vessel vasculitis, primarily affecting the upper respiratory tract, lungs, and kidneys. Pituitary involvement is reported in the literature in about 1% of all GPA cases. Pituitary GPA typically presents as a pituitary mass effect, resulting in symptoms such as headaches, visual disturbances, and anterior and posterior pituitary hormone deficiencies.

This report presents a rare case of pituitary GPA that was successfully treated with glucocorticosteroids (GCs) and cyclophosphamide.

Case description: A 22-year-old woman with a two-year history of headache, rhinitis, sinusitis, otitis media and cough. Sinus tomography revealed impaired ventilation of the middle ear, sphenoid and maxillary sinusitis. A chest computer tomography scans revealed multiple nodules. The diagnosis of GPA was confirmed by elevated anti-neutrophil cytoplasmic antibodies (c-ANCA) levels and the presence of ANCA directed to proteinase 3 antibodies. The initial treatment consisted of high-dose GCs and mycophenolate mofetil (2 g/day). After 6 months, clinical symptoms subsided. However, since May 2025, the patient experienced recurrent headache, general weakness, polyuria and polydipsia. The patient also had periodic nosebleeds and menstrual disorders. Biochemical tests revealed a deficiency of vasopressin, thyroid hormones and gonadotropins. The magnetic resonance imaging of the brain showed pituitary enlargement and thickening of the pituitary stalk – a typical symptom of pituitary inflammation. Treatment with GCs and cyclophosphamide in intravenous pulses was initiated. The headache resolved, and the patient underwent hormone replacement therapy.

Conclusions: To date, there are no established treatment guidelines of pituitary gland involvement in GPA. Several reports presented successful treatment with GCs and cyclophosphamide or rituximab. However, in most patients, pituitary gland dysfunction persists, necessitating long-term hormone replacement therapy.

It is important to be aware of the potential pituitary gland involvement in GPA, particularly in patients presenting with persistent headache and endocrine disorders.