Received: 16 April 2021 | Revised: 7 April 2022 | Accepted: 20 May 2022

DOI: 10.1002/ccr3.5940

Clinical Case Reports Open Access WILEY

CASE IMAGE

Eyelid edema due to Cushing's syndrome

Koichiro Yamamoto | **Kosuke Oka** | **Kou Hasegawa** | **Fumio Otsuka**

Department of General Medicine, Graduate School of Medicine, Dentistry and Pharmaceutical Sciences, Okayama University, Okayama, Japan

Correspondence
Koichiro Yamamoto, Department of General Medicine, Graduate School of Medicine, Dentistry and Pharmaceutical Sciences, Okayama University, 2-5-1 Shikata-cho, Kita-ku, Okayama 700-8558, Japan.
Email: pi291nd8@s.okayama-u.ac.jp

Funding information
None

Abstract

Cushing's syndrome (CS) shows diverse signs such as centripetal obesity, moon face, and buffalo hump, which can complicate the diagnosis. Facial features including eyelid edema, as an underrecognized sign, can be diagnostic clues for an excess of corticoids in a CS patient.

KEYWORDS

adrenocorticotropin, cortisol, Cushing's sign

A 49-year-old woman presented with amenorrhea and weight gain that had continued for 2 years. Her medical history was dyslipidemia, hypertension, and osteoporosis. Physical examination revealed eyelid edemas (Figure 1A), moon face, buffalo hump, abdominal purple striae, and centripetal obesity (body mass index (BMI), 30.8 kg/m^2). Basal plasma adrenocorticotropin was undetectable and serum cortisol level was high (16.9 μg/dl) without circadian rhythms. Free cortisol level in a 24-h urine collection was elevated (158.7 μg/day). Overnight administration of dexamethasone (1 mg) did not reduce serum cortisol level (17.4 μg/dl). Magnetic resonance imaging suggested bilateral adenomas. We made a diagnosis of adrenal Cushing's syndrome (CS). Since ^{131}l-adosterol scintigraphy showed specific uptake in the left adrenal gland, left adrenalectomy was laparoscopically performed. Histopathology of the tumor was compatible with adrenocortical adenoma. Three months after surgery, her BMI decreased to 25.0 kg/m^2 and eyelid edemas were ameliorated (Figure 1B).

Eyelid edema, in addition to centripetal obesity, moon face, and buffalo hump, is also a significant sign of CS; however, it has scarcely been reported in countries other than Japan.[1,2] Increased capillary permeability, insufficient venous return due to muscle atrophy, and sodium retention due to mineralocorticoid actions conceivably cause edema in CS.

FIGURE 1 (A) Bilateral eyelid edemas due to Cushing's syndrome are shown. (B) These findings were improved three months after surgery for left adrenal adenomas

AUTHORS' CONTRIBUTIONS

KY wrote the first draft and managed all the submission processes. KO and KH contributed to the clinical management of the patient. FO organized the writing the manuscript.

ACKNOWLEDGMENT

None.

CONFLICT OF INTEREST

The authors declare no conflicts of interest.

ETHICAL APPROVAL

Written informed consent was obtained from the patient to publish this case report.

ORCID

Koichiro Yamamoto https://orcid.org/0000-0001-9571-1646
Kosuke Oka https://orcid.org/0000-0002-7996-2354
Fumio Otsuka https://orcid.org/0000-0001-7014-9095

REFERENCES

1. Lacroix A, Feelders RA, Stratakis CA, Nieman LK. Cushing's syndrome. *Lancet*. 2015;386:913-927.
2. Komiya I, Takasu N, Ohara N, et al. Forty-one cases of Cushing's syndrome: a comparison between Cushing's syndrome (adrenal adenoma) and Cushing's disease (adrenal hyperplasia). *Nihon Naibunpi Gakkai Zasshi*. 1992;68:607-622.

How to cite this article: Yamamoto K, Oka K, Hasegawa K, Otsuka F. Eyelid edema due to Cushing's syndrome. *Clin Case Rep*. 2022;10:e05940. doi:10.1002/ccr3.5940