LETTER TO THE EDITOR

Serial T1-weighted magnetic resonance imaging changes in a patient with central diabetes insipidus, possibly due to lymphocytic infundibuloneurohypophysitis

T Ikema and N Takasu
Department of Endocrinology and Metabolism, Department of Internal Medicine, University of the Ryukyus, Uehara 270, Nishihara, Okinawa, Japan 902-0215

(Correspondence should be addressed to N Takasu; Email: takasun@med.u-ryukyu.ac.jp)

Central diabetes insipidus (CDI), characterized by polydipsia and polyuria due to vasopressin deficiency, is familial, idiopathic or secondary. Idiopathic CDI, which accounts for 10% to 30% of cases of CDI (1), is characterized by selective hypofunction of the hypothalamic–neurohypophysial system. Idiopathic CDI could be an autoimmune disorder (2). Imura et al. (3) studied the processes of idiopathic CDI by magnetic resonance imaging (MRI), found abnormalities in the pituitary stalk and neurohypophysis, and performed biopsies that demonstrated lymphocytic inflammation. Their cases were diagnosed with CDI due to lymphocytic infundibuloneurohypophysitis. Their study provided new insight into the pathogenesis of CDI. However, they did not demonstrate the serial changes by MRI. We demonstrate the serial T1-weighted MRI changes in a 52-year-old woman with CDI possibly due to lymphocytic infundibuloneurohypophysitis. The initial MRI findings on admission were prominent pituitary-stalk thickening and neurohypophysial enlargement. These findings suggested that the patient had lymphocytic infundibuloneurohypophysitis (3–5). The serial T1-weighted MRI changes which occurred over the years were (i) prominent pituitary-stalk thickening and neurohypophysial enlargement, (ii) their improvement, and finally (iii) empty sella. The MRI changes are associated with the clinical course of the disease. Steroids were not administered to the patient; she recovered from CDI spontaneously. She was not treated with steroids. She recovered from CDI spontaneously and vasopressin was discontinued. The diagnosis of CDI was made on the basis of the decreased ADH levels with low urine osmolality and high plasma osmolality. T1-weighted MRI (Fig. 1A,D) revealed prominent pituitary-stalk thickening and neurohypophysial enlargement, indicating lymphocytic infundibuloneurohypophysitis that caused CDI. Her CDI was controlled with vasopressin. She was not treated with steroids. She recovered from CDI spontaneously and vasopressin was discontinued. T1-weighted MRI (Fig. 1A,D) revealed prominent pituitary-stalk thickening and neurohypophysial enlargement. An MRI scan in March 2003 (Fig. 1B,E) demonstrated improvement of pituitary-stalk thickening and neurohypophysial enlargement. An MRI scan in June 2004 (Fig. 1C,F) revealed an empty sella. With improvement of pituitary-stalk thickening and neurohypophysial enlargement, she recovered from CDI. The serial MRI changes - prominent pituitary-stalk thickening and neurohypophysial enlargement (A, D), their improvement (B, E), and then the empty sella (C, F), were associated with the clinical course of the disease. She was not treated with steroids. The serial MRI changes might show a natural course of lymphocytic infundibuloneurohypophysitis.

© 2005 Society of the European Journal of Endocrinology

DOI: 10.1530/eje.1.02043

Online version via www.eje-online.org

Downloaded from Bioscientifica.com at 12/22/2018 01:07:52AM via free access
In our patient, the initial MRI findings were prominent pituitary-stalk thickening and neurohypophysial enlargement, suggesting that she had lymphocytic infundibuloneurohypophysitis (3–5). Lymphocytic infundibuloneurohypophysitis is typically observed in women during late pregnancy or in the postpartum period but may be seen at any age and in either gender. We demonstrated the serial MRI changes in a patient with CDI possibly due to lymphocytic infundibuloneurohypophysitis. The MRI changes are associated with the clinical course. Steroids were not administered to the patient and she recovered from CDI.

We demonstrated serial T1-weighted MRI changes in a patient with lymphocytic infundibuloneurohypophysitis. CDI can be caused by lymphocytic infundibuloneurohypophysitis, which can be detected by MRI. The clinical course of the disorder is associated with T1-weighted MRI changes.

References


Received 2 September 2005
Accepted 9 September 2005