Case Report

Spontaneous Reduction of Rathke's Cleft Cysts: Report of Two Cases

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Abstract: This report describes two patients with Rathke’s cleft cyst in whom spontaneous reduction could be demonstrated with magnetic resonance (MR) imaging. The first patient was a 31-year-old woman and the second patient was a 17-year-old girl. Both patients complained of headache. Initial MR images revealed a cyst visualized as a ring enhancement in the sella turcica. The MR images obtained 5 weeks after the onset of symptoms revealed cyst reduction in both patients. These two cases strongly suggest the spontaneous course of Rathke’s cleft cyst.

Key words: Rathke’s cleft cyst, spontaneous reduction, magnetic resonance imaging

Introduction

Although the frequency of diagnosis of Rathke’s cleft cyst has recently been increasing owing to advances in imaging diagnosis, the spontaneous course of this condition is still unknown. Most cases are now treated surgically. We describe two patients with Rathke’s cleft cysts that underwent spontaneous reduction without surgery.

Case Reports

Case 1.

This 31-year-old woman complained of intolerable headache on March 10, 1989. There was no previous history of similar headache. There were no visual field or acuity disorders and no endocrine symptoms. Results of loading tests of pituitary function were within normal limits.

On plain skull films, the sella turcica was enlarged and a double floor was observed. At the time of onset of symptoms, a T1-weighted magnetic resonance (MR) image revealed a hypointense mass in the sella turcica and a T2-weighted MR image showed a hyperintense mass. A gadolinium-enhanced T1-weighted MR image revealed a cyst visualized as a ring enhancement. A computed tomographic (CT) scan revealed no calcification (Fig. 1). A second MR examination was performed 5 weeks after onset and revealed a reduction of the cyst (Fig. 2).

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Case 2.

This 17-year-old girl first experienced intolerable headache on June 18, 1994. One week later she visited our hospital. There was no previous history of similar headache. Menstruation was slightly irregular, but no other endocrine symptoms were observed. There were no visual field or acuity disorders.

On plain skull films, the sella turcica was enlarged and a double floor was observed. At the initial examination, a T1-weighted MR image showed a hypointense mass, a T2-weighted MR image showed a hyperintense mass, and a gadolinium-enhanced T1-weighted MR image showed ring enhancement (Fig. 3).

Fig. 1. Case 1. CT scan and MR images at initial examination. A cyst, visualized as a ring in the sella turcica, is present. Arrowhead indicates Rathke's cleft cyst. a: Enhanced coronal CT. b: Sagittal T1-weighted image. c: Coronal gadolinium-enhanced T1-weighted image. d: Sagittal gadolinium-enhanced T1-weighted image.
Fig. 2. Case 1. CT and MR image 5 weeks after onset. The cyst in the sella turcica has diminished in size (arrowhead). a: Enhanced coronal CT. b: Coronal T1-weighted image. c: Sagittal T1-weighted image.

Fig. 3. Case 2. MR image at the initial examination. A cyst was visualized in the sella turcica. Arrowhead indicates Rathke's cleft cyst. a: Sagittal T1-weighted image. b: Sagittal gadolinium-enhanced T1-weighted image. c: Coronal gadolinium-enhanced T1-weighted image.
Headache was the only symptom. Endocrine symptoms were also absent. Therefore, no surgical procedure was performed and the patient was closely observed. Headache gradually improved, and a MR image obtained 5 weeks after onset revealed cyst regression and disappearance of compression of the chiasma opticum (Fig. 4). Continued observation detected no enlargement of the cyst.

Discussion

According to Shanklin\textsuperscript{1,2)}, 13\% to 22\% of autopsy cases have a Rathke’s cleft cyst. Owing to advances in imaging diagnosis, the frequency of diagnosis of Rathke’s cleft cyst is increasing\textsuperscript{3-5)}, but numerous points regarding its spontaneous course remain unclarified. This condition is now usually treated surgically in most hospitals\textsuperscript{6-8)}.

Ishii et al.\textsuperscript{9)} reported the mechanism of cyst size change in two patients who complained of intermittent headache. They suggested that intermittent headache is caused by cyst enlargement and reduction because of an imbalance in epithelial secretion and absorption.
Kiya et al.\textsuperscript{10}) reported that one case of Rathke's cleft cyst possessed mucous-producing cells in the cyst wall which were associated with an infundibular gland-like structure and marked inflammatory cell infiltration. They believed that the amount of mucous produced by the mucous-producing cells was related to changes in the size of the cyst. The findings in case 1 suggest the same mechanism of change in the size of the cyst. However, the cyst wall could not be examined immunohistologically because it was evacuated in the operation. The cyst was initially manifested as headache in both of our patients. The MR images and intraoperative finding in case 1 suggest that headache was not caused by hemorrhage. Although its etiology is unknown, headache appeared with rapid enlargement of the cyst and disappeared with cyst reduction. There have been no previous reports of spontaneous reduction of Rathke's cleft cysts, similar to the present cases. These two cases, therefore, provide useful information about the natural course of this condition.

Surgery is indicated when a Rathke's cleft cyst produces such symptoms as diabetes insipidus, and visual field and acuity disorders\textsuperscript{5,7,8). However, in asymptomatic cases and in cases with only headache, the cyst may undergo spontaneous reduction, as in our cases. The indications for surgery should, therefore, be carefully considered.

References


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