



CASE REPORT

# Coexistence of anterior communicating artery aneurysm and tuberculum sellae meningioma



Jen-Lung Chen <sup>a</sup>, Jung-Shun Lee <sup>a</sup>, Edgar D. Su <sup>a</sup>,  
Ming-Tsung Chuang <sup>b</sup>, Hsing-Hong Chen <sup>c,\*</sup>

<sup>a</sup> Division of Neurosurgery, Department of Surgery, National Cheng-Kung University Hospital, College of Medicine, National Cheng-Kung University, Tainan, Taiwan

<sup>b</sup> Department of Diagnostic Radiology, National Cheng-Kung University Hospital, College of Medicine, National Cheng-Kung University, Tainan, Taiwan

<sup>c</sup> Division of Neurosurgery, Department of Surgery, Taipei Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, New Taipei City, Taiwan

Received 20 April 2015; received in revised form 16 June 2015; accepted 14 September 2015

Available online 11 December 2015

## KEYWORDS

aneurysm;  
coexistence;  
meningioma

**Summary** Tuberculum sellae meningioma is a common intracranial tumor. However, its coexistence with an intratumoral aneurysm is rare. Here, we present the case of a 65-year-old woman with progressive vision loss caused by a tuberculum sellae meningioma coexisting with an intratumoral anterior communicating artery aneurysm. Treatment modalities for patients with this rare coexisting pathology were reviewed. When an intracranial tumor is closely related to the major intracranial vessel, preoperative magnetic resonance imaging angiography, a safe and noninvasive imaging study, is suggested for the early diagnosis of a possible coexisting aneurysm and for reducing the risk of intraoperative aneurysm rupture.

Copyright © 2015, Taiwan Surgical Association. Published by Elsevier Taiwan LLC. All rights reserved.

## 1. Introduction

Brain tumors and intracranial aneurysms are commonly encountered in neurosurgical practice. However, the coexistence of an intracranial tumor and an aneurysm is rare, with a reported incidence of 0.3–1%.<sup>1,2</sup> From an anatomic perspective, the middle cranial fossa and the nearby middle

Conflicts of interest: The authors declare no conflicts of interest.

\* Corresponding author. Department of Surgery, Taipei Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Number 289, Jianguo Road, Xindian District, New Taipei City 23142, Taiwan.

E-mail address: [chenhhg0624@tzuchi.com.tw](mailto:chenhhg0624@tzuchi.com.tw) (H.-H. Chen).

<http://dx.doi.org/10.1016/j.fjs.2015.09.001>

1682-606X/Copyright © 2015, Taiwan Surgical Association. Published by Elsevier Taiwan LLC. All rights reserved.

cerebral artery are the most typical locations for both lesions, and their occurrence at these locations is related to an increased regional blood flow. The association between tuberculum sellae meningioma (TSM) and anterior communicating artery (ACoM) aneurysm is extremely rare.<sup>3–5</sup> Here, we report the case of an unruptured ACoM aneurysm embedded within a TSM. The importance of the prompt early detection of an intratumoral aneurysm prior to surgery is critical to avoiding intraoperative disaster. Treatment strategies for these two coexistent lesions are also discussed.

## 2. Case Report

A 65-year-old woman visited our outpatient clinic because of progressive loss of left and right visual acuity, in this order, without any symptoms associated with increased intracranial pressure. The neurological examination revealed no abnormalities, except for an abnormal cranial nerve (CN) II sign. A visual field test showed left blindness with right temporal hemianopsia. On admission, brain computed tomography and magnetic resonance (MR) imaging with MR angiography (MRA) were performed, which revealed one round mass, 2.7 cm × 2.3 cm × 1.8 cm in diameter, with substantial postcontrast enhancement (Figure 1A–C) over-riding the tuberculum sellae. The mass was located amid the chiasm and the two optic nerves, and displaced the pituitary gland downward. The MRA also revealed a 0.5-cm vascular out-pouch arising from the ACoM, which was compatible with an ACoM aneurysm (Figure 1D).

The patient underwent left frontal craniotomy using a subfrontal approach. A reddish tumor was noted after retraction of the frontal lobe (Figure 2A). After partial tumor removal, a tubular aneurysm enclosed within the tumor was revealed (Figure 2B). The neck of the aneurysm was clipped successfully, and the residual tumor was removed (Figure 2C and D). In addition, agenesis of right A1 was noted, which was consistent with the MRA findings (Figure 1D). The histopathological characteristics of the tumor were compatible with Grade I transitional meningioma, and the postoperative course was uneventful. At a 6-month postoperative visit, the patient exhibited improvement in right hemianopsia; however, left blindness was still observed. A 5-year follow-up MR imaging revealed no evidence of tumor recurrence.

## 3. Discussion

The association between intracranial tumors and aneurysms was first reported by Arieti<sup>6</sup> in 1944. A review of related literature revealed that the coexistence of tumors with aneurysm is highest for meningioma, followed by glioma, pituitary adenoma, and miscellaneous tumors.<sup>1,2</sup> In most patients with brain tumors, any coexisting aneurysms are located within the same cerebral hemisphere. The characteristic and etiologic causes seem to be unlike those of tumors and aneurysms occurring in different cerebral hemispheres.

The exact pathologic mechanism underlying the coexistence of intracranial tumors and aneurysms remains unknown and has been suggested to be a coincidence.<sup>6</sup> Two common hypotheses have been proposed. First, the



**Figure 1** (A) Axial T2-weighted, and (B) axial and (C) sagittal T1-weighted contrast-enhanced images, and (D) magnetic resonance angiography revealed a 2.5-cm homogeneous enhanced mass over the tuberculum sellae (\*), with an intratumoral vascular pouch from the anterior communicating artery (arrow).

Download English Version:

<https://daneshyari.com/en/article/4284974>

Download Persian Version:

<https://daneshyari.com/article/4284974>

[Daneshyari.com](https://daneshyari.com)