CASE REPORT – OPEN ACCESS

International Journal of Surgery Case Reports 42 (2018) 161–164

Contents lists available at ScienceDirect

International Journal of Surgery Case Reports

journal homepage: www.casereports.com

Endoscopic management of Atypical sellar cavernous hemangioma: A case report and review of the literature

A.M. Al-Sharydah[a], S.S. Al-Suhibani[a], S.A. Al-Jubran[a], A.H. Al-Abdulwahhab[a], M. Al-Bar[b], H.M. Al-Jehani[c], W.M. Al-Issawi[c,*]

[a] Radiology Department, Imam Abdulrahman Bin Faisal University, King Fahd Hospital of the University, Saudi Arabia
[b] Otolaryngology Department, Imam Abdulrahman Bin Faisal University, King Fahd Hospital of the University, Saudi Arabia
[c] Neurosurgery Department, Imam Abdulrahman Bin Faisal University, King Fahd Hospital of the University, Saudi Arabia

ARTICLE INFO

Article history:
Received 30 October 2017
Received in revised form
29 November 2017
Accepted 2 December 2017
Available online 8 December 2017

Keywords:
Cavernous hemangioma
Magnetic resonance imaging
Pituitary tumor
Sellar/parasellar tumor
Vascular malformation

ABSTRACT

INTRODUCTION: supratentorial cavernous hemangiomas, particularly those found in the sellar region, are extremely rare. We present a case of sellar cavernous hemangioma with radiological characteristics that have never been reported. Due to the difficulty diagnosing these lesions, misdiagnosis might occur. Thus, briefing surgeons about the clinico-radiological features of such rare lesions is crucial for better understanding the enigmatic features of such rare lesions and to develop early management approaches that could result in better surgical excision with a lower tendency for complications.
PRESENTATION OF CASE: A 43-year-old male presented with headache, blurred vision, and impotence for the last 2 years. Brain magnetic resonance imaging showed an atypical sellar mass displaying signals of heterogeneous intensity on T1- and T2-weighted imaging. The mass exhibited heterogeneous enhancement after gadolinium injection. Endoscopic endonasal surgery was subsequently performed, during which an uneventful subtotal resection of the mass was achieved. Histopathological analysis confirmed the diagnosis of intrasellar cavernous hemangioma.
DISCUSSION: Many questions regarding how best to manage such lesions remain unanswered. Hence, we summarize the relevant surgical techniques and discuss misconceptions.
CONCLUSION: Seller cavernous hemangioma (SCH) is an extremely rare lesion that can be misdiagnosed. It is characterized by clinico-radiological features similar to those of other lesions such as pituitary macroadenoma and should be included in the differential diagnosis. The *endoscopic endonasal transsphenoidal (EET)* approach with subtotal/total resection appears to be a feasible option for debulking, with less surgical complications. Nonetheless, combining stereotactic radiosurgery will reduce postsurgical morbidities.

1. Introduction

Cerebral cavernous malformations (CCMs) are benign vascular lesions with an incidence of 0.5% among all individuals [1]. However, recent advances in neuroradiology techniques have improved the ability to detect vascular malformations [2]. Clinically, affected patients usually present with various signs and symptoms, including headaches, epileptic seizures, intracranial hemorrhage, and focal neurological deficits [3]. However, approximately 50–80% of CCMs are asymptomatic and are usually found incidentally on magnetic resonance imaging (MRI) [4]. CCMs were once considered inoperable because their treatment was associated with a high risk of complications; however, various surgical procedures are now performed to treat CCMs. Stereotactic radiosurgery is currently widely used in combination with surgery as a standard of care and has a low incidence of surgical complications [5]. *Seller cavernous hemangioma (SCH)* is a very rare lesion, as only a few cases of SCH have been reported in the literature [6–12]. In this report, we describe a case with a CCM located in the sellar region in line with the SCARE criteria [13] that exhibited atypical radiological features that have not been reported previously. We also describe the histopathological characteristics and the surgical approach used to treat this lesion in our academic institution. it considers the first case from a Middle Eastern country.

2. Presentation of case

A 43-year-old male with no known medical illnesses, surgical intervention or family history of a similar condition was presented

Abbreviations: SCH, seller cavernous hemangioma; EET, endoscopic endonasal transsphenoidal; CCMs, cerebral cavernous malformations.

* Corresponding author at: Imam Abdulrahman Bin Faisal University (University of Dammam), King Fahd Hospital of the University, Neurosurgery Department, Dammam City, P.O.Box 2998, Eastern Province 31952, Saudi Arabia.
E-mail addresses: dr_sari@hotmail.com (S.S. Al-Suhibani), dr_sa3ed@hotmail.com (S.A. Al-Jubran), ahabdulwahab@iau.edu.sa (A.H. Al-Abdulwahhab), m.albar@hotmail.com (M. Al-Bar), hjehani@iau.edu.sa (H.M. Al-Jehani), wmalissawi@iau.edu.sa (W.M. Al-Issawi).

https://doi.org/10.1016/j.ijscr.2017.12.006

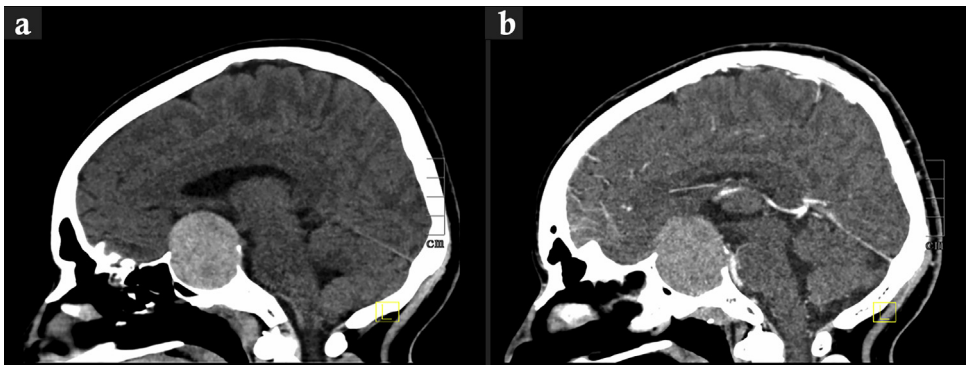

Fig. 1. A) Sagittal non-enhanced CT scan demonstrating a large sellar/suprasellar hyper-dense lesion with superior extension compressing the floor of the 3rd ventricle. B) Post-contrast image showing faint enhancement.

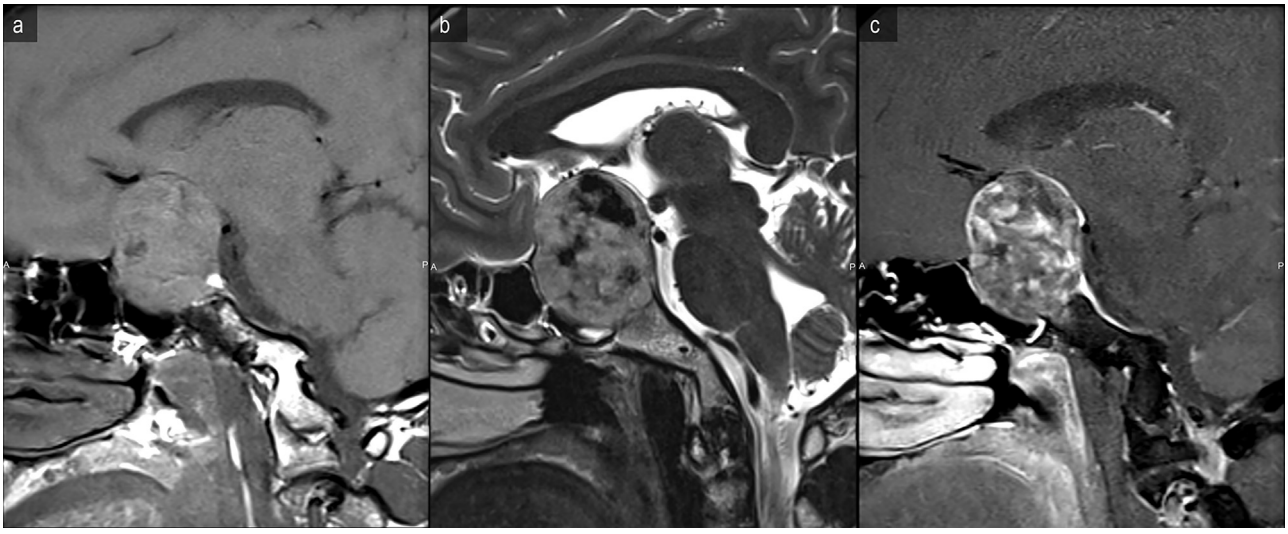

Fig. 2. A) Sagittal pre-contrast T1-weighted image showing an iso-dense signal in the gray matter. A bright spot in the neurohypophysis is preserved. B) Sagittal T2-weighted image showing heterogeneous intensity signals and multiple foci of signal voids. C) Post-gadolinium contrast T1-weighted image showing heterogeneous enhancement.

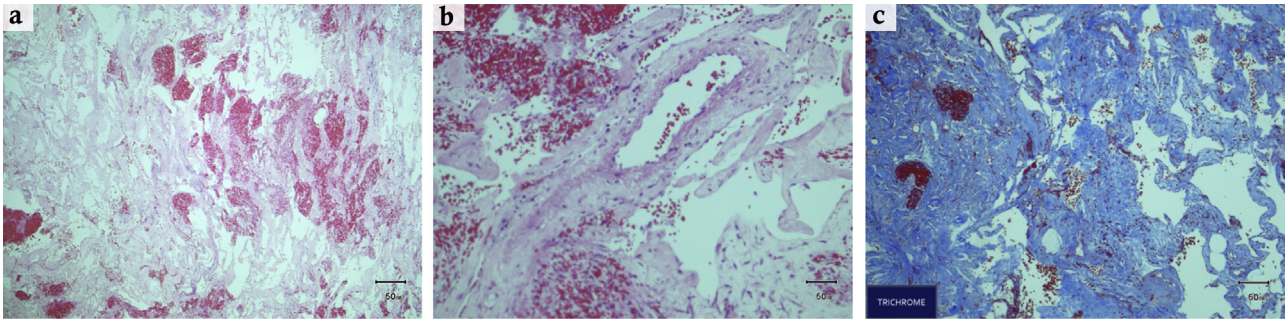

Fig. 3. A) Low-magnification image showing dilated blood vessels of varying sizes filled with red blood cells. B) High-magnification image showing thin-walled blood vessels separated by collagen. C) Glial fibrillary acidic protein staining was negative, indicating that no glial tissue was present in the section under examination. (For interpretation of the references to colour in this figure legend, the reader is referred to the web version of this article.)

to the emergency room with headache, blurred vision, decreased libido, and impotence for the last 2 years. The patient reported no history of medications or genetic diseases. Endocrinological and biochemical test results were normal. However, ophthalmological examination revealed decreased visual acuity in the left eye, bitemporal homonymous hemianopsia, and bilateral 6th nerve palsy, and cranial CT showed a large sellar/suprasellar mass (Fig. 1). T1- and T2-weighted imaging demonstrated a large sellar/suprasellar lesion displaying heterogeneous intensity signals and heterogeneous enhancement post-gadolinium injection. The lesion compressed the brain parenchyma and suprasellar structures (Fig. 2). The patient was treated with an *endoscopic endonasal transsphenoidal (EET)* approach under the supervision of specialized surgeons in the fields of neurosurgery and head & neck surgery. The surgeons encountered a firm and large tumor that was dark red in color and of vascular origin while exposing the sellar floor. A subtotal resection of the lesion was performed without complications. A subsequent histopathological examination confirmed the diagnosis of CCM (Fig. 3). Follow-up examinations during the post-operative period revealed that the patient had hypothyroidism, for