Case report: Pituicytoma in the UAE: A Rare Sellar Tumor and the First Reported National Case

Maryam Alzubaidi, MD[1]; Ghanaym Almazrouei, MBBS[1]; Aisha Al Mazrouei, MBBS[1]; Hilal Omar, MBBS[1]; Sanooj Syed, MBBS[1]; Hasan Shawa, MD[2]; Rawia Mohamed, MBBS[3]; Joshua Hughes, MD[4]; Tarek Rayan, MD[4,5]

Sheikh Shakhbout Medical City (SSMC), Abu Dhabi, United Arab Emirates, Burjeel Hospital, Abu Dhabi, United Arab Emirates, Alexandria University, Alexandria, Egypt

Introduction

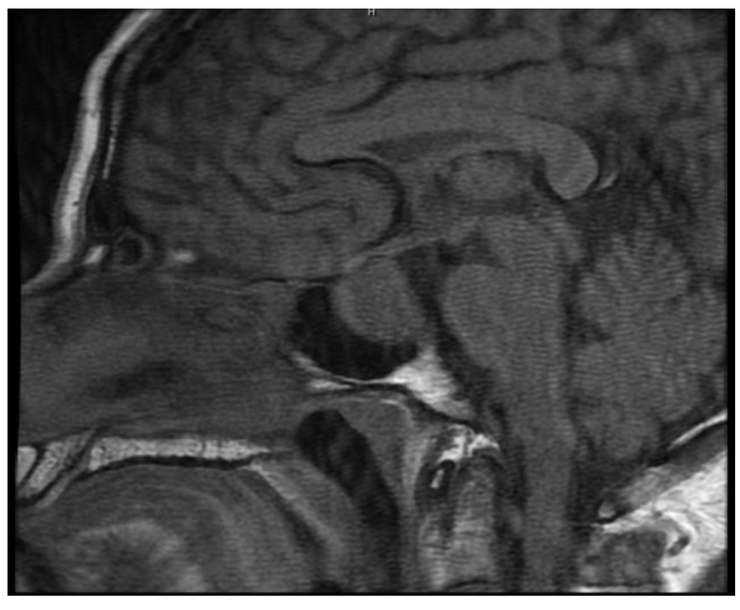
Pituicytoma is an exceptionally rare low-grade glioma of the sellar and suprasellar region, derived from the specialized glial cells of the posterior pituitary and infundibulum The rarity of the tumor, together with its nonspecific presentation, contributes to frequent misdiagnosis and delayed recognition. To the best of our knowledge, we report the first case of pituicytoma diagnosed in a United Arab Emirates (UAE) national.

Case

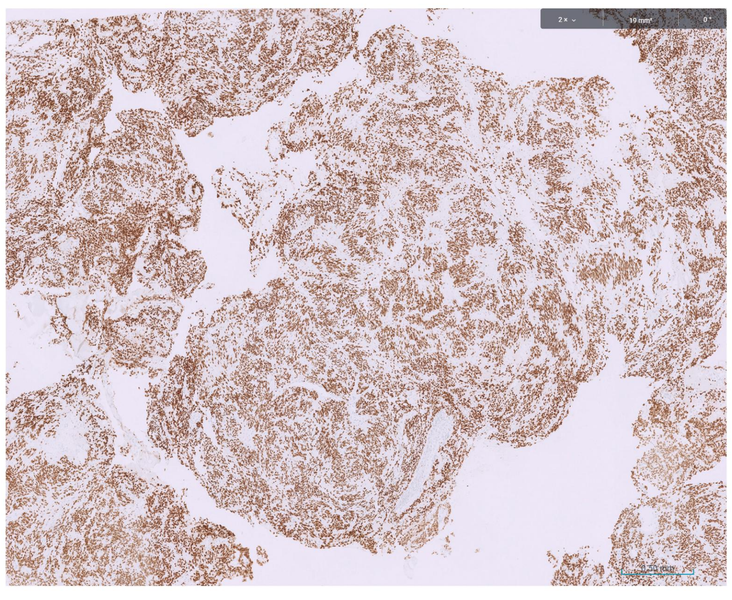
A 52-year-old Emirati male presented with a two-day history of severe persistent headache and recurrent vomiting, accompanied by mild blurring of vision. He also reported longstanding symptoms of hypogonadism and intermittent headache episodes over several years. Emergency CT brain revealed a suprasellar mass, and MRI demonstrated a well-circumscribed . sellar and suprasellar lesion measuring 20 × 15 mm, compressing and elevating the optic chiasm, radiologically suggestive of pituitary macroadenoma (picture 1). Neuro-ophthalmological evaluation showed visual acuity of 6/6 bilaterally, with a left-sided temporal visual field defect. Endocrine assessment revealed secondary adrenal insufficiency and central hypothyroidism, along with hypogonadotropic hypogonadism. Replacement therapy with hydrocortisone and levothyroxine was initiated preoperatively.

The patient underwent an endoscopic endonasal transsphenoidal resection of the mass performed jointly by the neurosurgery and otolaryngology teams. Intraoperatively, the lesion was highly vascular, necessitating meticulous hemostasis. Gross total resection was achieved without surgical complications. Histopathological examination revealed a spindle-cell neoplasm arranged in fascicles, with cells strongly and diffusely positive for TTF-1 (picture 2), and negative for cytokeratin, EMA, chromogranin, and GFAP. The Ki-67 proliferative index was <1%. These findings were diagnostic of pituicytoma (WHO Grade I).

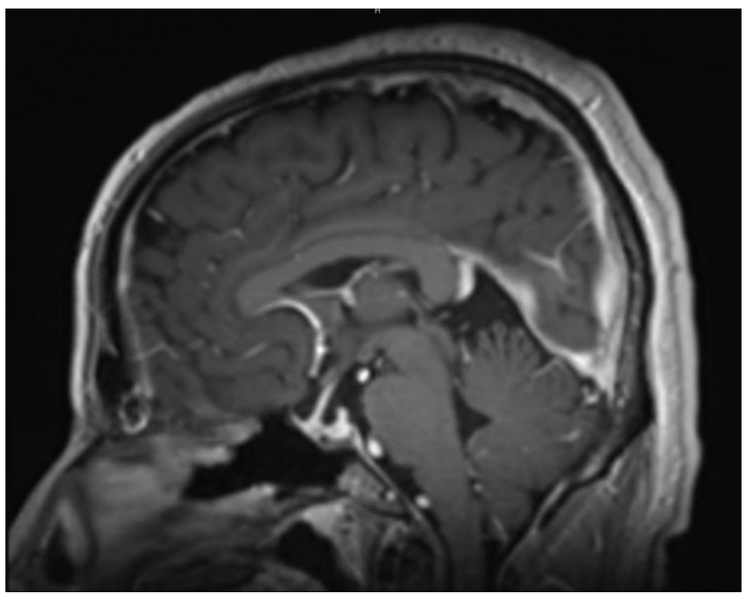
Postoperatively, the patient recovered without new neurological deficits. He remains stable on endocrine replacement therapy, and follow-up MRI at two years confirmed no recurrence (Picture 3)



Picture 1



Picture 2



Picture 3

Discussion:

Pituicytomas are rare, often under-recognized tumors that present with symptoms of mass effect such as headache, visual disturbance, and varying degrees of hypopituitarism. Their radiological appearance is largely indistinguishable from nonfunctioning pituitary adenomas, leading to frequent misdiagnosis prior to surgery. Intraoperatively, their vascularity poses a significant challenge, with potential for substantial bleeding which was encountered in this case. Gross total resection remains the preferred treatment, offering the best chance of cure and lowest recurrence risk, approximately 4–5%. However, recurrence rate increases significantly up to 35–40% when subtotal resection is preformed. Immunohistochemical staining for TTF-1 is critical for diagnosis, confirming the glial origin of the tumor and differentiating it from adenomas and other gliomas.

Conclusion:

This case represents the first documented pituicytoma in a UAE national, underscoring the importance of considering this rare entity in the differential diagnosis of sellar and suprasellar masses. Accurate recognition, multidisciplinary surgical planning, and immunohistochemical confirmation are key to achieving favorable outcomes. Continued long-term clinical and radiological surveillance is warranted given the potential risk of recurrence, particularly in cases where only subtotal resection is achieved.