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Traumatic Stab Wound to the Chest - A Rare Cause of Pituitary Apoplexy

Jairo A. Espinosa, MD, Timothy R. Wysozan, Chris A. Sloffer, MD

Introduction

Pituitary apoplexy is an uncommon condition that results from infarction and hemorrhage of a pituitary adenoma. Based on our review of the literature, this is the first description of pituitary apoplexy presenting after a knife stab wound to the deltopectoral region. Pituitary apoplexy is seen in 0.6 - 9.1% of patients suffering from a pituitary adenoma¹. Pituitary adenomas make up 10% of intra-cranial tumors, thus making pituitary apoplexy a very rare event². The event is more common in males than in females and it most commonly occurs in the fifth or sixth decade of life.² Its presentation results from the rapid expansion of the infarcted and/or hemorrhaging adenoma and its subsequent compression of nearby structures such as the optic chiasm and cavernous sinus. Typically, the condition presents acutely with severe headache, nausea and altered mental status.²

Case Presentation

A 44 year-old male presented as a tier 1 trauma activation status post stabbing to the left deltopectoral groove. The patient was found to be hemodynamically unstable and actively exsanguinating from the stab wound. He was taken to the operating room where the wound was explored and the left cephalic vein was ligated. While in the operating room, the patient required multiple blood products to due to the large amount of exsanguination. Patient tolerated the procedure well and was discharged two days post-operatively. Patient returned to the hospital on post-operative day four with a severe frontal headache. While in the emergency room, the patient quickly decompensated and was found to have ptosis on the left, abducens nerve palsy and anisocoria. MRI displayed a large pituitary macroadenoma with intra-mass hemorrhage filling the suprasellar cistern and invading the left cavernous sinus (Figure 1). Labs revealed hypopituitarism. Patient underwent an emergent transsphenoidal endoscopic pituitary resection. The post-operative course was unremarkable. Pathology revealed a large pituitary adenoma with areas of extensive infarction, acute inflammation, and hemorrhage.

Discussion

The first recorded case of what is known today as pituitary apoplexy was reported in 1898.³ At that time, Pearce Bailey observed and described a hemorrhage into the pituitary gland producing symptoms of headache, vomiting, fever, visual loss, and ocular palsy in a man with acromegaly. The post-mortem examination of this patient revealed bleeding into an interstellar adenoma. Inciting events for pituitary apoplexy include bromocriptine therapy, bromocriptine withdrawal, pregnancy, sneezing, estrogen administration, coughing, anticoagulant medications, cerebral angiography and therapy, and rarely head trauma.⁴ Pituitary apoplexy, in its acute presentation, may often be overlooked due to its similarities to other neurological conditions, such as subarachnoid hemorrhage and bacterial meningitis.⁵ Three of the strongest predicting signs and symptoms are: a sudden, retro-orbital headache, diplopia; and impaired consciousness.⁵ The imaging modality of choice for diagnosing pituitary apoplexy is MRI, which is estimated to confirm the diagnosis in more than 90% of cases.⁵ At the time of suspected diagnosis, the patient should have multiple laboratory tests, including: electrolytes, kidney and liver functions, coagulation, CBC, and general pituitary function tests in order to fully assess the origin of the signs and symptoms.⁵ Once the diagnosis has been made for this acute condition the mainstay of treatment falls into two categories – medical and surgical management. Medically, the patient must be kept hemodynamically stable, hormone evaluation and replacement is imperative for hormone deficiency, water and electrolyte disorders must be managed, and the use of high dose glucocorticoids is recommended.⁵ While surgical intervention is recommended and required for every patient with pituitary apoplexy, the timing of surgery is still based on physician discretion.⁵ Most current literature recommends urgent surgical decompression for patients with altered mental status, hypothalamic involvement, decreased visual acuity or amaurosis fugax.⁵ The preferred approach based on low morbidity and mortality is the transsphenoidal approach, but an intra-cranial approach may be required for suprasellar involvement.

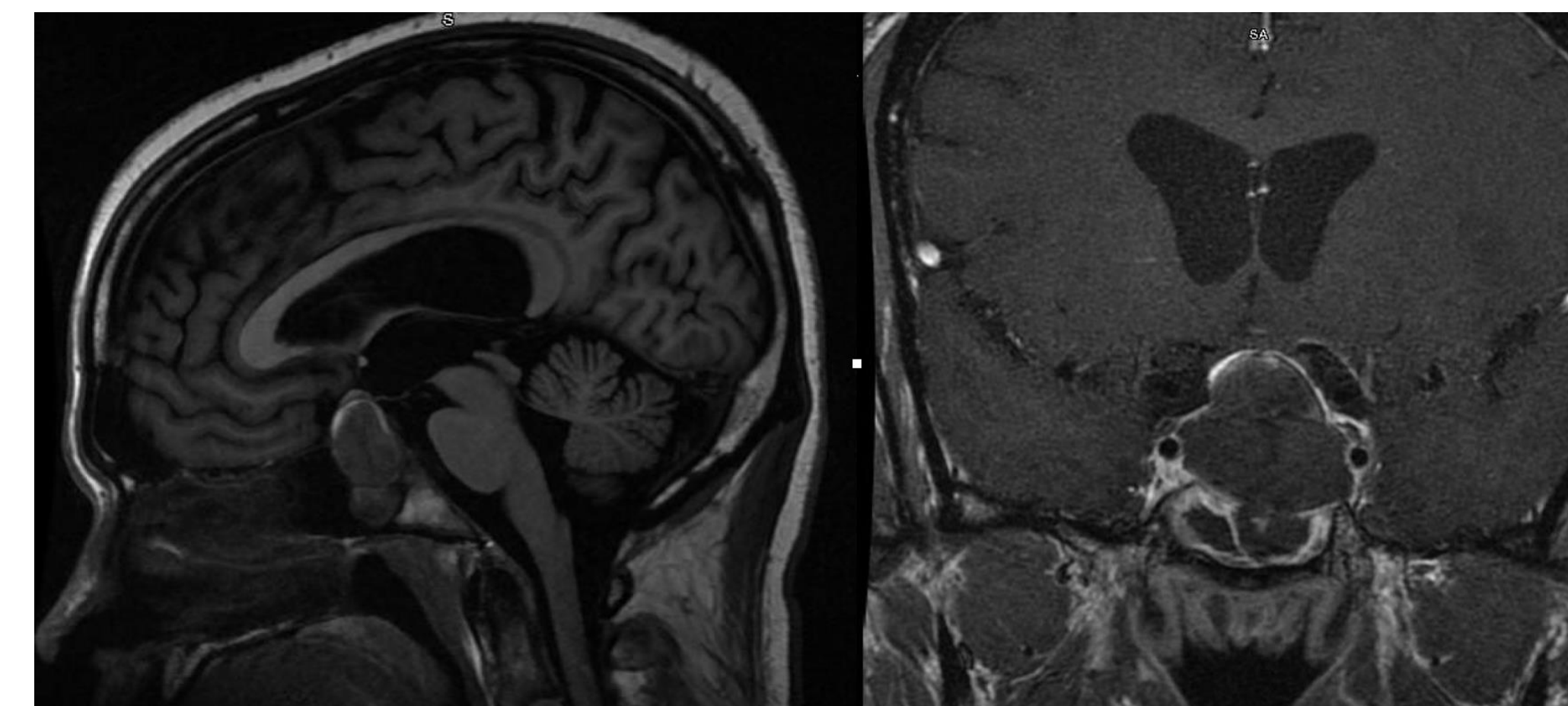


Figure 1. T1-Weighted MRI findings showing a large pituitary adenoma in sagittal plane (left) and coronal plane (right).

Conclusion

Pituitary apoplexy is a rare complication of a pituitary adenoma. This case report exhibits an extremely rare occurrence of pituitary apoplexy presenting after a penetrating traumatic event to the chest that was successfully and safely treated via transsphenoidal endoscopic pituitary resection.

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