



Introduction

The occurrence of subarachnoid hemorrhage following transsphenoidal pituitary resection is rare and to our knowledge has only been described in very few case reports¹. The basilar artery lies posterior to the pituitary gland and although rare, is at risk given its position. Damage to this artery can be catastrophic.

Case Presentation

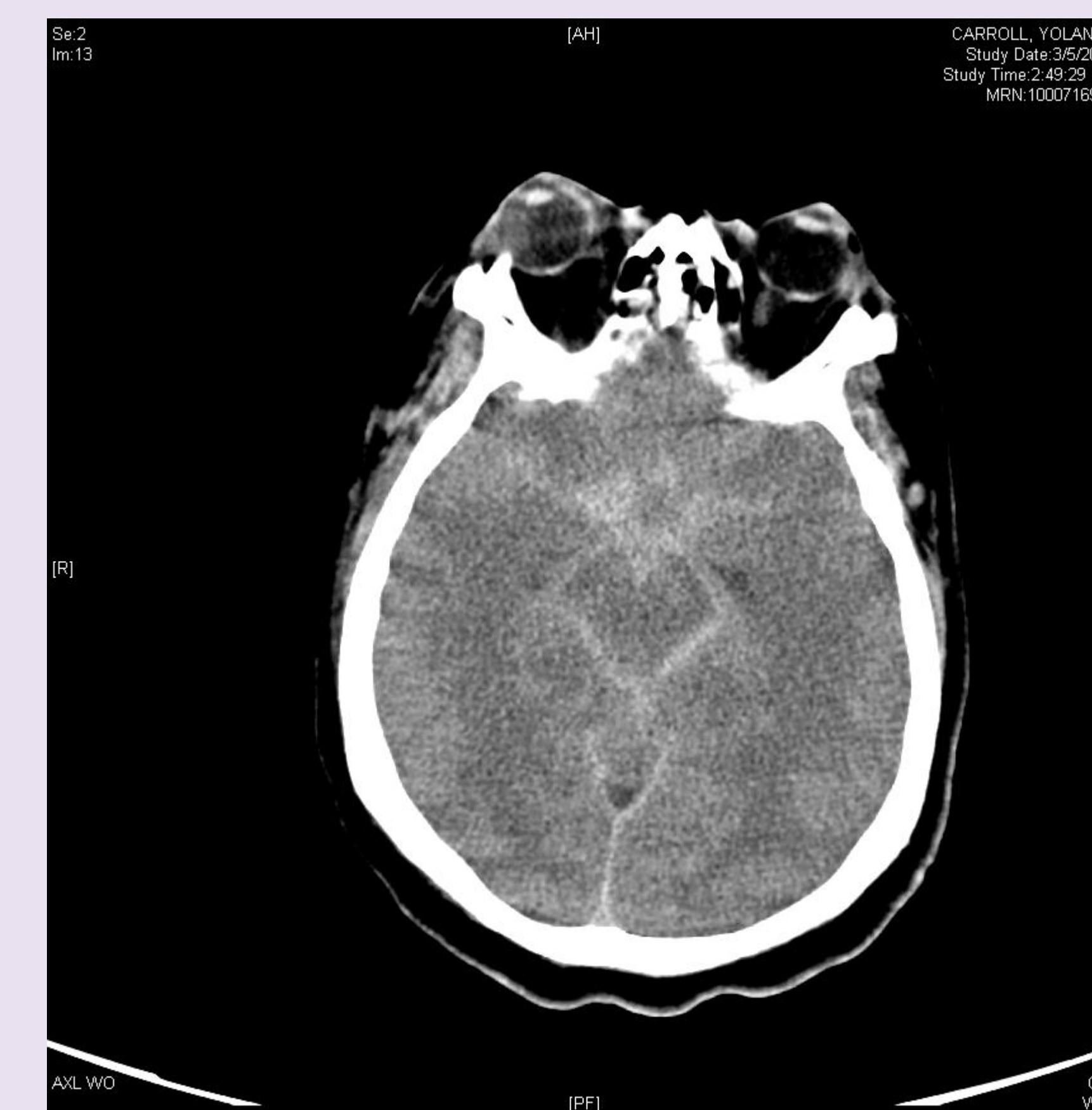
A 36 year old woman was seen in the Neurosurgery clinic for a 1 month history of right sided blurry vision and occipital headaches. MRI of the brain was performed and a 3 cm enhancing mass arising from the sella turcica into the suprasellar space, affecting the optic nerves, and infundibulum/hypothalamus. She was subsequently scheduled for transsphenoidal resection of the pituitary gland. Remarkable medical history included diabetes and hypertension.

Preoperatively patient was hemodynamically stable. Induction and intubation were uneventful and an arterial line was placed post induction. The procedure progressed without complications as the surgeons removed the bulk of the tumor. After removing one of the final portions of the tumor the surgeon notified the anesthesia resident of increased bleeding. Up to this point, the patient had been very hemodynamically stable but the blood pressure suddenly increased to 230/160. At this time the inhalational anesthetic was increased and the patient was hyperventilated. Propofol was also given to decrease the patients blood pressure and mannitol infusion was started.

Once hemodynamic stability was again achieved, returning to the baseline that had been present throughout the procedure, the surgeons completed the procedure. Drapes were removed and pupils were checked and found to be dilated and non-reactive. The patient was immediately taken to CT scan which showed diffuse SAH.

Following CT, patient was taken to the neurointerventional suite for 4 vessel IR. Findings included non-filling of the distal basilar artery with active extravasation of contrast. Due to poor prognosis, no intervention was performed.

Post-op Imaging



Discussion

Subarachnoid hemorrhage is a rare but serious complication associated with transsphenoidal resection of the pituitary gland. In a review of English literature, Goyal et al found that there had only been 3 reported cases(2-4) when they published their report and literature review on the subject.

Arterial injuries are known to occur, and due to the proximity of the basilar artery, injury is a rare risk. More common during transsphenoidal resection of the pituitary gland is damage to the internal carotid and sphenopalatine artery(5). Raymond et al in a retrospective study of 1800 patients who underwent transsphenoidal pituitary adenoma resection, found that only 21 patients had vascular complications and the majority (17/21 or 81%) were injuries to the internal carotid artery.

The most serious complication associated with SAH is death as a result of increased intracranial pressure (ICP). Anesthetic management should include a quick response when SAH and measures should be immediately taken to decrease ICP. These measures include increasing the depth of anesthesia, hyperventilation and administration of mannitol. Despite our best efforts, major vascular injury can be catastrophic.

References

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