

Prolactinoma: A Little Too Big

Alexander Le, MD; Hyun Jung, MD; Anik Nath, MD; Sushil Ahlawat, MD.

Rutgers New Jersey Medical School, Newark, New Jersey, USA.



BACKGROUND

- Giant prolactinomas represent 2-3% of all prolactin secreting tumors
- Headache, vision changes, and endocrine symptoms are common to prolactin secreting tumors
- Giant prolactinomas are also responsible for unique manifestations related to extensive invasion of surrounding structures [1].

Presentation

- A 22-year-old man with no past medical history presented with worsening right sided headache, neck stiffness, drooping eyelids, dyspnea, vomiting, and epistaxis for one week.

Initial Data

- Vitals:
 - Temperature: 98F
 - Blood pressure: 136/79
 - Respiratory rate: 18 breaths/min 100% on room air
 - Heart rate: 67 beats per min
- Exam:
 - Ptosis and exophthalmos of the right eye as well as anisocoria. Bilateral photophobia, +Brudzinski sign
- Labs:
 - WBC 21,200 (92% neutrophil)
 - Prolactin >4500
 - ACTH 173 (elevated)
 - Testosterone 86 (low)
 - LH 2.2 (normal), GH 0.2 (normal), TSH 0.25 (normal), fT4 1.1 (normal), insulin-like growth factor 106 (normal), morning cortisol 19.4 (normal)
- Cultures
 - Blood culture: *Strep. Pyogenes*

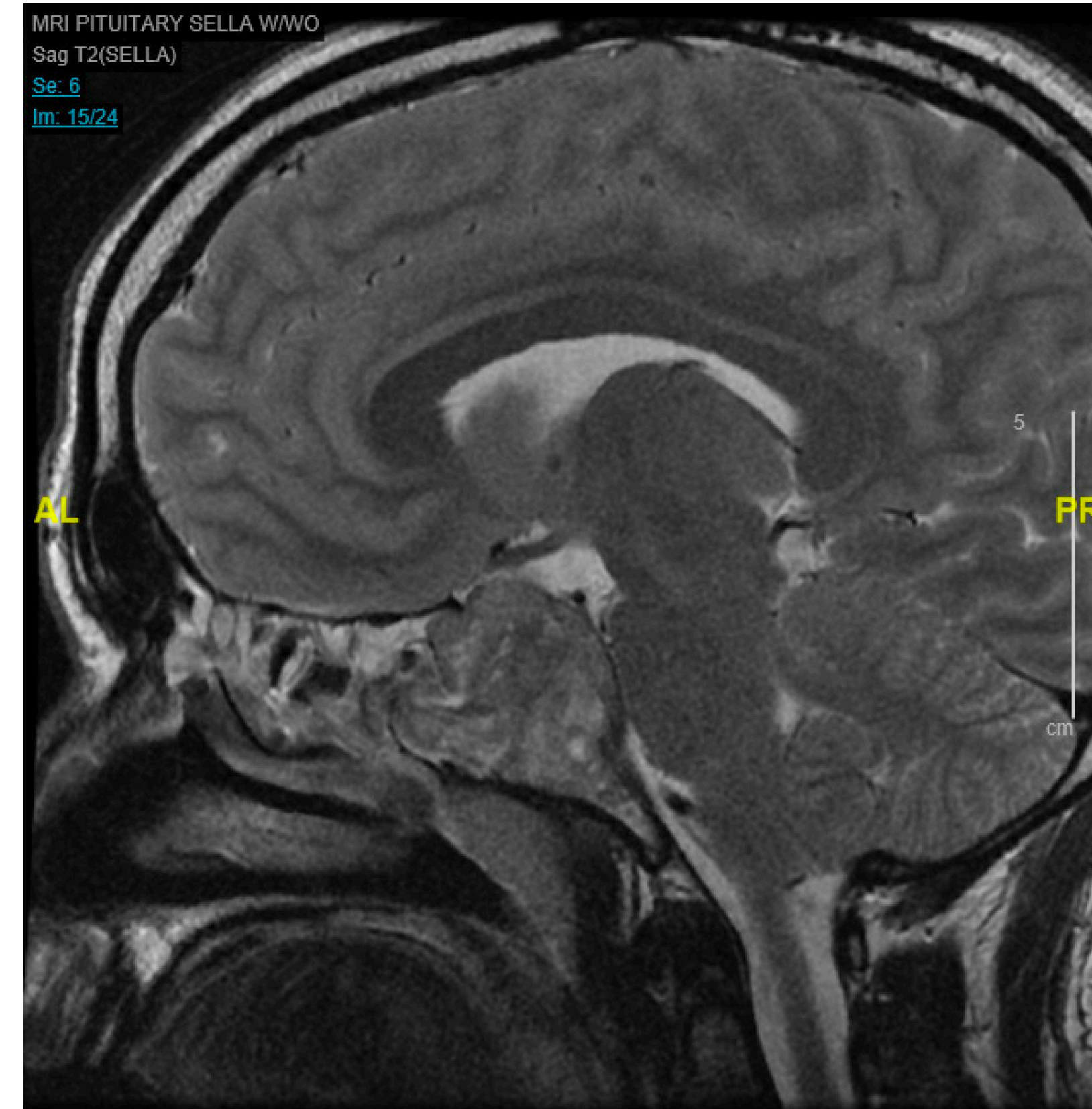


Figure 1: T2 Flair Sagittal View

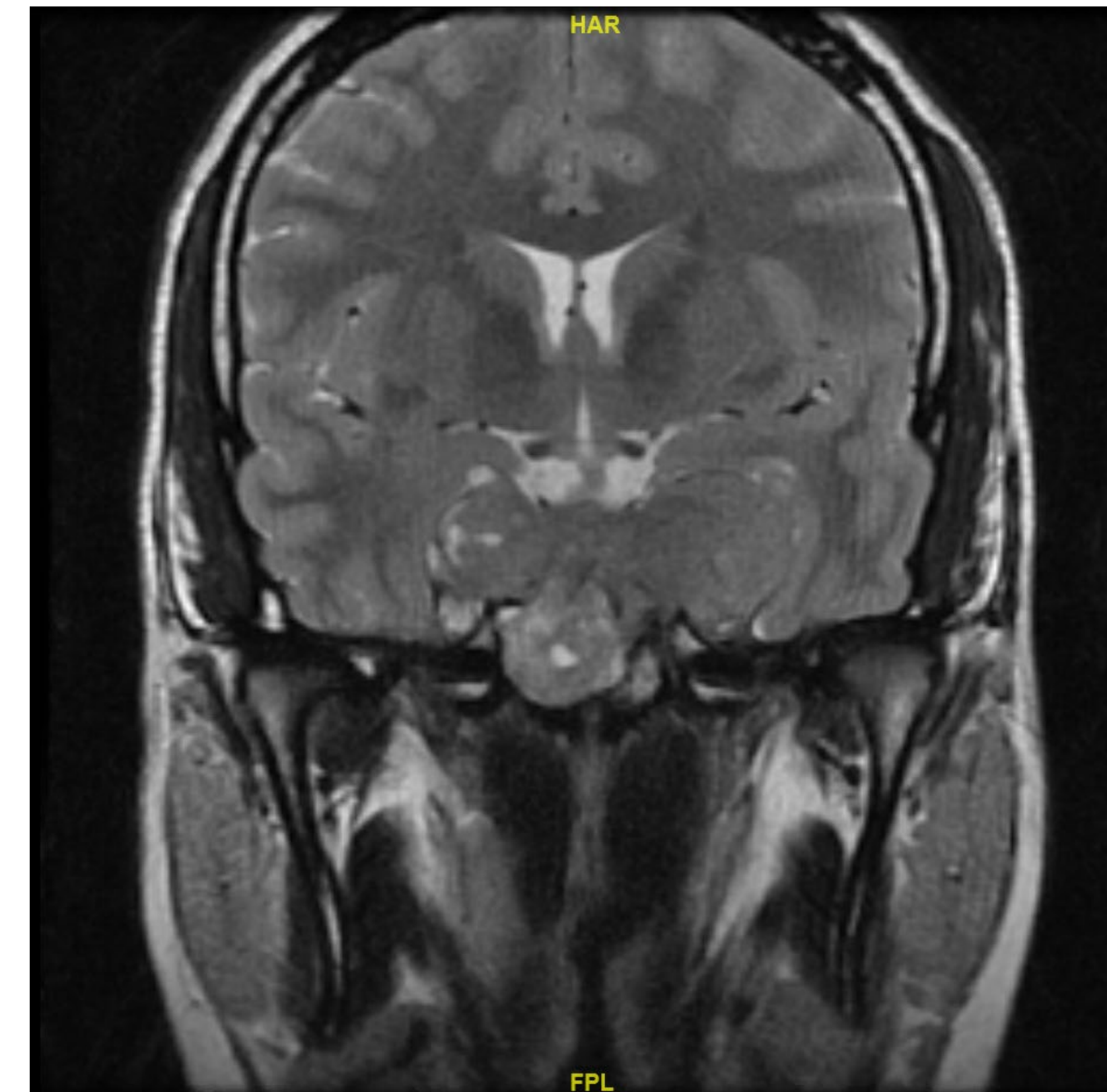


Figure 2: T2 Coronal View

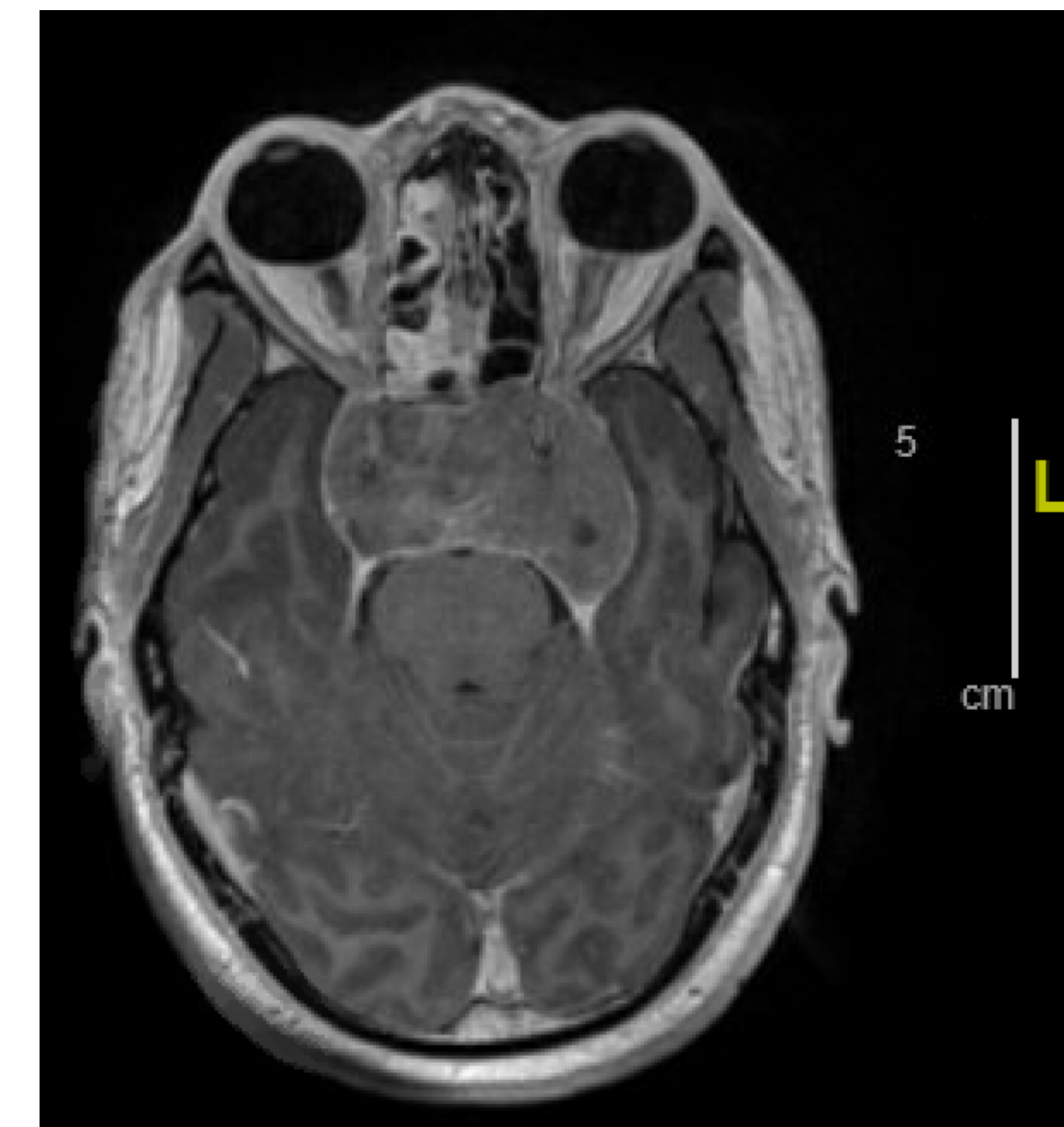


Figure 3: T1 Flair Horizontal View

- CT head indicated 3.8cm x 5.7cm x 2.7cm macroadenoma
- MRI head revealed the mass arising from enlarged sella, extending superiorly with mass effect upon the optic chiasm, invading the right sphenoid sinus and both cavernous sinuses, and completely encasing both internal carotid arteries.

Hospital Course

The patient was initiated on cabergoline and empiric antibiotics. His blood cultures revealed *S. Pyogenes*, raising high suspicion for meningitis. However, lumbar puncture and neurosurgical interventions were deferred given the size of the mass and involvement of surrounding structures. After a week of treatment, the patient had an appropriate improvement of his symptoms and prolactin level. The repeat MRI showed new regions of necrosis within the mass, and the mass effect of the right medial temporal lobe with associated edema. The patient was started on dexamethasone. The patient showed significant improvement in his clinical status over the next few days. He was discharged with cabergoline, ceftriaxone, and dexamethasone taper.

Discussions

- Giant prolactinomas can result in mass effects and bony erosions of the surrounding structures, which can result in cerebral spinal fluid infections and altered mental status
- Medical management is preferred over surgical intervention despite the large size of giant prolactinomas [2].
- Recognition of such potential complications is critical in the diagnosis, evaluation, and management of patients with large pituitary masses.

References

1. Maiter, D., & Delgrange, E. (2014). Therapy of endocrine disease: the challenges in managing giant prolactinomas. *European journal of endocrinology*, 170(6), R213–R227. <https://doi.org/10.1530/EJE-14-0013>
2. Goel, A., Nadkarni, T., Muzumdar, D., Desai, K., Phalke, U., & Sharma, P. (2004). Giant pituitary tumors: A study based on surgical treatment of 118 cases. *Surgical Neurology*, 61(5), 436–445. <https://doi.org/10.1016/j.surneu.2003.08.036>