

Background

- Posterior to the gyrus rectus lies the intracranial optic nerve and anterior chiasm, and compression is usually neoplastic [1]
- Spontaneous herniation of the gyrus rectus is uncommon [2] and may present with visual symptoms.
- **We report a rare case of spontaneous idiopathic gyrus rectus herniation in an adolescent, resulting in hemi-chiasmal compression.**

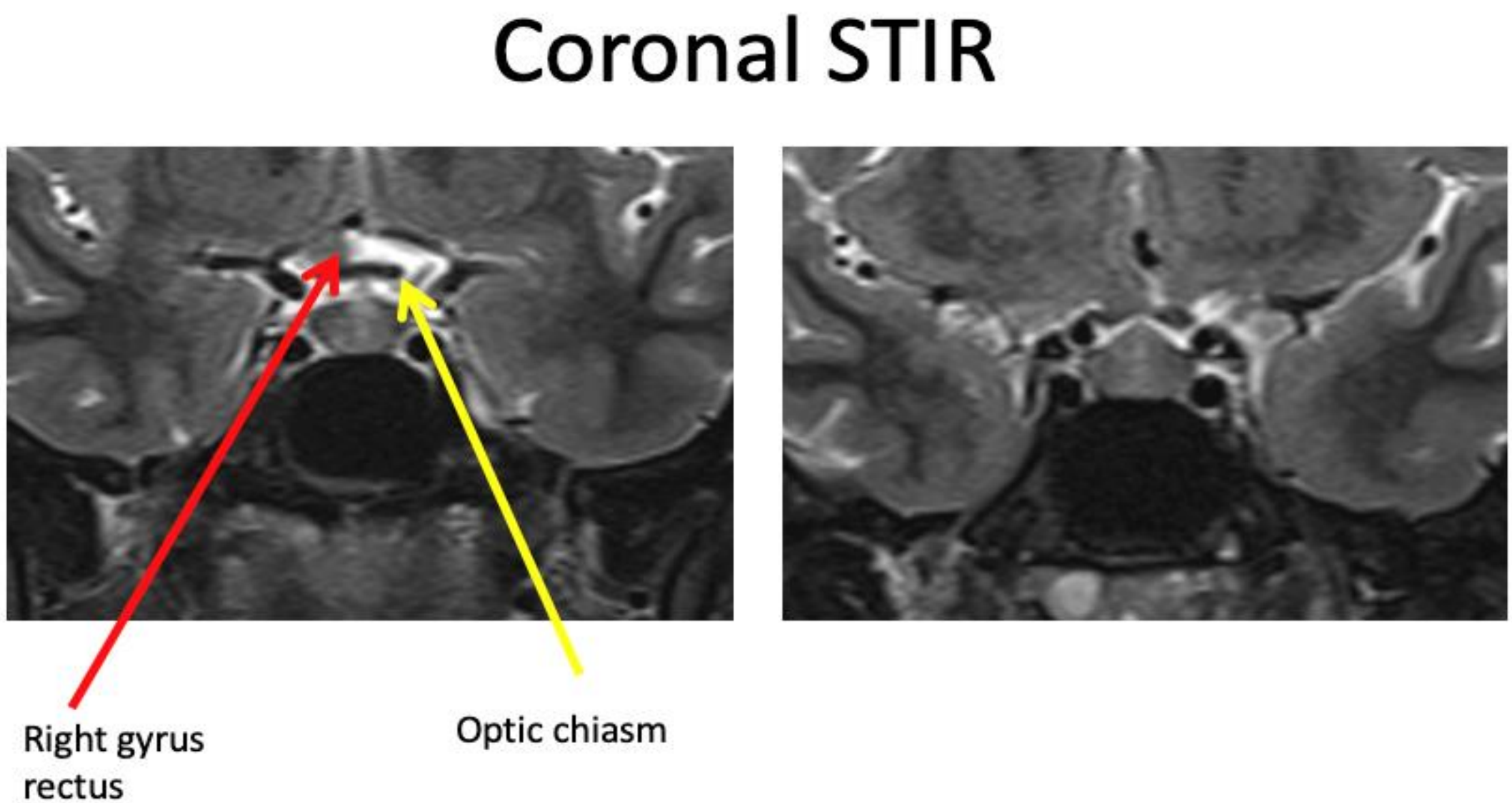
Case Presentation

- 17-year-old female with a one-day history of acute right visual loss
- Associated mild retro-orbital discomfort
- Previously healthy; no relevant medical or family history
- Visual acuity: Right eye (RE) LogMAR 1.24 (1.2 pinhole), Left eye (LE) 0.2
- Colour vision: RE 2/17, LE 17/17 (Ishihara)
- No relative afferent pupillary defect (RAPD); full extraocular movements
- Fundoscopy and optical coherence tomography (OCT) of disc and macula were normal

Management

- **IV methylprednisolone 1g daily for 5 days**
- Referred to regional skull-base multi-disciplinary team (MDT)
- No surgical indication identified
- Conservative monitoring recommended

Investigations and Imaging



- Magnetic resonance imaging (MRI): **inferior herniation of right gyrus rectus** (*Left image*), in contrast to a normal appearance (*Right image*)
- **Direct contact with right hemi-chiasm** (*red arrow*)
- Mild increased T2 signal in pre-chiasmatic optic nerve (*yellow arrow*)
- **High-resolution T2 weighted sequence** confirmed mechanical compression

Outcome & Follow Up

- After 5-day IV methylprednisolone, vision stabilised with no further deterioration
- Fundoscopy, OCT and visual evoked potential (VEP) remained normal
- Repeat MRI: no progression of gyrus rectus–chiasmal compression
- Visual acuity improved to RE LogMAR 0.14; LE 0.00

Discussion

- **Idiopathic gyrus rectus herniation is a rare cause of optic pathway compression.**
- **Sudden unilateral vision loss with normal fundus and absent RAPD made optic neuritis a less likely differential, prompting further work-up.**
- Adolescent onset makes a congenital skull-base defect unlikely.
- Empirical corticosteroids trialed for possible oedema.
- Neurosurgical MDT review: no indication for surgery and for conservative management due to stable appearances on imaging.

Learning Points

1. **Idiopathic gyrus rectus herniation is a rare cause of optic nerve or chiasmal compression.**
2. **Patients can present with unilateral vision loss with no clinical signs of optic neuropathy.**
3. **High-resolution MRI (e.g., CISS) can detect subtle optic pathway compression.**
4. **Normal fundus and absence of RAPD do not exclude significant optic chiasmal compression.**

References:

1. Avraham E, Katz B, Borruat FX. Visual disturbances secondary to sellar and parasellar lesions. J Clin Neurosci.2021;87:1-7. doi:10.1016/j.jocn.2021.02.010.
2. Sharma K, Srivastava AK, Kanaujia V, Jaiswal S, Jaiswal AK. Monocular visual loss due to herniation of gyrus rectus: a case report with review of literature. J Neurosci Rural Pract. 2014;5(4):405-407.