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Introduction

Paediatric optic neuritis (ON) is a rare disease, involving inflammation of the optic nerve with an incidence of 1.5 per 100,000 population. Unfortunately diagnosis can be delayed in the paediatric population due to young children not noticing or reporting their symptoms until a change in behaviour is noted by their caregivers.

If left untreated and uninvestigated, there is the concern that the child may have poor vision recovery or that it is an early manifestation of a serious condition such as multiple sclerosis (MS).

Case Description

A 3 year old child presented to the emergency department with a three week history of worsening painless blurring of vision, described as sudden blackness. On further history she was noted to be clumsy by her parents with frequent falls at home despite being seen at an optometrist and wearing spectacles of 0.4 diopter. Upon review she was well with an unremarkable physical examination.

Subsequent ophthalmoscopy revealed she had bilateral optic disc swelling but a computed tomography (CT) of her brain was normal. She was admitted to the paediatric unit and planned for a lumbar puncture and further workup.

References

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2. Petzold A, Fraser CL, Abegg M, Alroughani R, Alshowair D, Alvarenga R, et al. (December 2022). "Diagnosis and classification of optic neuritis". *The Lancet. Neurology*. 21 (12): 1120–1134. doi:10.1016/S1474-4422(22)00200-9. hdl:2078.1/276419. PMID 36179757.

Discussion

The main concern with ON is its relationship to MS with between 13-36% of children with optic neuritis eventually developing MS. The work up in the first presentation will be to investigate other non-immune mediated causes of ON with a lumbar puncture and brain magnetic resonance imaging.

The mainstay of treatment is intravenous steroids with consideration for intravenous immunoglobulin or plasmapheresis if steroid resistant. Consideration must also be given to psychosocial challenges including potential missed schoolwork or other issues arising from the functional vision limitation.

The visual recovery is usually good although long term monitoring and follow up for the child is mandated to pick up any underlying disorders.

Conclusion

Paediatric optic neuritis is an uncommon condition hence this case was reported to reinforce the importance of early detection, especially in the emergency department and swift referrals to the relevant specialties to facilitate adequate care and investigation for sinister causes.

