Bilateral Optic Disc Swelling in Eye Casualty – Auditing the Utility of "Papilloedema Pathway" to Improve Clinical Outcomes

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Introduction

Bilateral optic disc swelling (suspected papilloedema) can present in the acute eye care setting.

A 'papilloedema pathway' was implemented to improve timely investigation of children and adults presenting to eye casualty with suspected papilloedema.

We aim to audit the utilisation of the pathway and the accuracy of assessment.

Methods

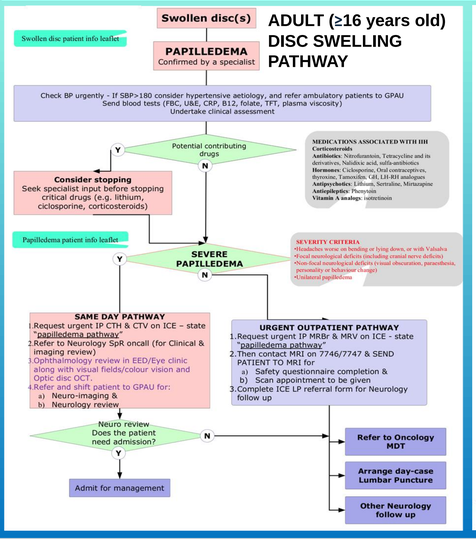
Retrospective data collection from electronic patient records of adults and children with suspected papilloedema (March - June 2023) presenting to eye casualty.

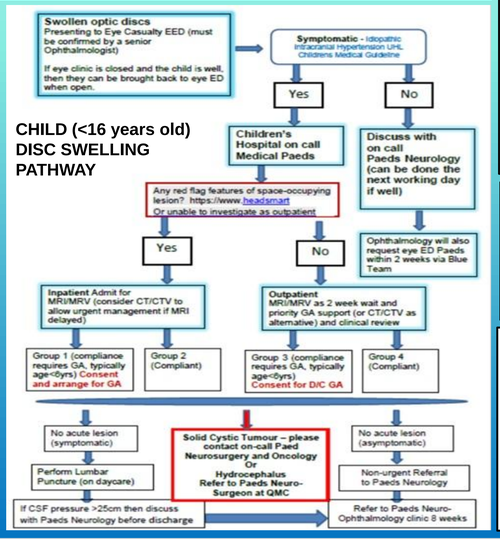
Data collected: demographics, clinical examination results, neuro-imaging, neurology referral and lumbar puncture, subsequent outpatient follow-up.

Adult "swollen discs" Radiology Pathway

Under "Papilloedema Pathway", an urgent MRI head and MRV should be performed within **48 hours** and reported within **7 days**.

Outpatient follow-up appointment should be with neurology/neuro-ophthalmology within **2-3 weeks**.



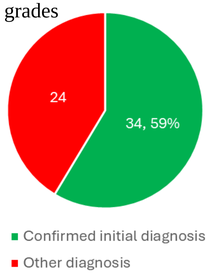


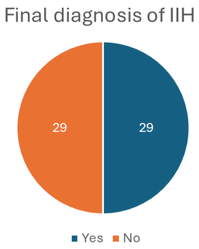
Results

•58 patients (9 Males, 49 Females)- 48 Adults, 10 Children
• Adult age range: 17-73, mean 33.4 years
• Children age range: 6-17, mean 11.2 years

Clinical diagnosis

•Initial assessment – 43/58 (74.1%) seen by non-consultant grades



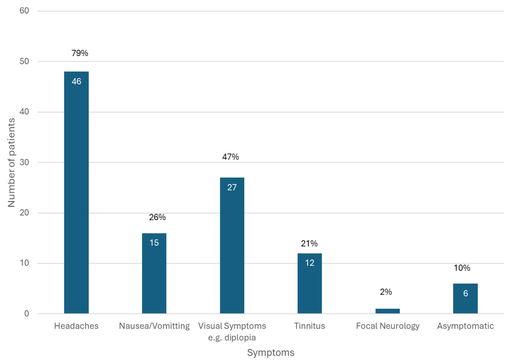


Other (non-IIH) diagnosis of patients referred via "Papilloedema pathway":

•2 cases: optic neuritis

•2 cases: ischaemic optic neuropathy

•20 cases: pseudopapilloedema (optic disc drusen, tilted, crowded, anomalous optic discs)



- 48 patients (82.8%) recorded Snellen visual acuity better than 6/12.
- Pupil examination 55 patients (94.8%).
- Colour vision documented in all patients.
- Blood pressure documented in 19 patients (32.8%).
- Spontaneous venous pulsation recorded in 13 patients (22.4%).
- Frisen grade was documented in 42 patients (72.4%), of which 10 cases (8 adults, 2 children, 17.2%) were deemed to be Grade 3, 4 or 5.

• OCT Spectralis® was performed in 57 patients (98.3%), 15 patients (25.9%) had autofluorescence in Eye Casualty.
• MRI/MRV brain and orbits was performed in 38/58 patients (65.5%).
• Amongst 48 adults, 30 patients followed the 'urgent outpatient' pathway. The remaining 18 patients were either admitted as an emergency or followed the 'same day' pathway.
• 22/30 adults (73.3%) had MRI head and MRV performed within 48 hours as per guidelines.

Reasons for delay in 48-hour MRI scans:
• Incorrect urgency code on imaging request.
• Did not state "papilloedema pathway' on imaging request.
• Patients misunderstood instructions from staff when booking outpatients MRI/MRV appointment after eye casualty assessment

Clinical outcomes

Overall, 51/58 patients (87.9%) were referred to neurology (adult and paediatric) as per pathway guidelines.
•28/58 patients (48.3%) had lumbar punctures performed, 11 patients (39.3%) had normal opening pressure (8 adults, 3 children)
•22/30 adults (73.3%) had follow-up within 2-3 weeks as per 'urgent outpatient' pathway guidelines

Conclusion

There was good utilisation of "Papilloedema Pathway" in the eye casualty setting. However, there were administrative and communication reasons identified for the deviation from the recommended timeline for neuroimaging.

•Recommendations from the audit include: information cascading of "Papilloedema Pathway" guidelines at medical staff induction, uploading them onto eye casualty guidelines at Sharepoint® and producing written patient instructions for booking neuroimaging after assessment at Eye Casualty.

References

1. Ray HJ, Smolar AL, Dattilo M, Bouthour W, Berman G, Peragallo JH, Kedar S, Pendley AM, Greene JG, Keadey MT, Wright DW. The Increasing Burden of Emergency Department and Inpatient Consultations for "Papilledema". Journal of Neuro-Ophthalmology. 2024 Dec 1;44(4):571-7.

2. Blanch RJ, Horsburgh J, Creavin A, DOPS Study Group Mollan SP 3 5 DOPS Study Group Lo SY 6 DOPS Study Group Denniston AK 2 6 DOPS Study Group Dulku S. 6 DOPS Study Group, Burdon MA, Williams C. Detection of Papilloedema Study (DOPS): rates of false positive papilloedema in the community. Eye. 2019 Jul;33(7):1073-80.