NON-ARTERITIC ANTERIOR ISCHEMIC OPTIC NEUROPATHY (NAION) IN A YOUNG PATIENT WITH GESTATIONAL TROPHOBLASTIC NEOPLASIA: A CASE REPORT

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BACKGROUND & OBJECTIVE

Gestational trophoblastic neoplasia (GTN) may be associated with thrombotic complications. Methotrexate is standard treatment for low-risk disease, but optic nerve toxicity is rarely reported. We describe acute unilateral visual loss in a young patient during treatment and discuss the diagnostic challenge.

CASE PRESENTATION

A 19-year-old primigravida with an ultrasound suggesting a complete hydatidiform mole (β-hCG 25,250.9 mIU/mL). She underwent manual intrauterine aspiration. After uterine evacuation, persistently rising β-hCG met FIGO criteria for low-risk postmolar GTN. Intramuscular methotrexate (1 mg/kg, days 1, 3, 5 and 7; folinic acid rescue on alternate days) was initiated.

After two cycles, she developed sudden, painless visual loss in the left eye. Best-corrected visual acuity was 20/20 (right) and 20/80 (left), with a 2+/4+ relative afferent pupillary defect. Fundoscopy showed segmental nasal optic disc pallor and perimacular arteriolar narrowing.

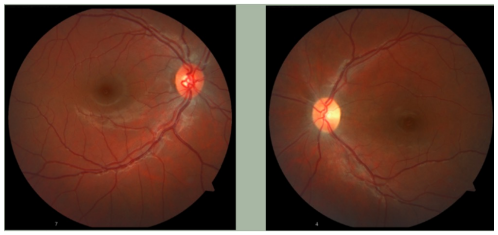


Figure .1 Fundoscopic examination. Normal optic disc in the right eye. The left eye shows segmental nasal optic disc pallor with perimacular arteriolar narrowing involving the cilioretinal artery.



Figure 2. Color and red-free fundus photography of the left eye showing optic disc pallor.

DIAGNOSTIC WORK-UP

Systemic evaluation excluded inflammatory, infectious, autoimmune and compressive causes. Hematology investigated thrombophilia and alternative mechanisms. Methotrexate-associated optic neuropathy and cilioretinal artery occlusion were considered, but were less consistent with the clinical and imaging pattern.

CLINICAL COURSE

Methotrexate was continued with close visual monitoring. β-hCG normalized (<5 mIU/mL) and treatment was completed with consolidation cycles. β-hCG remained negative during one year of surveillance; GTN remission was maintained. Visual acuity remained stable without recovery at >12 months.



Figure 3. Serum B-hCG, selected values (log scale; day/month, 2024-2025). Normal (<5) from 30 Oct.

DISCUSSION

NAION is uncommon in young, otherwise healthy patients. GTN may amplify pregnancy-associated hypercoagulability, while treatment-related endothelial or hematologic changes may contribute. The unilateral, abrupt, painless presentation and ischemic imaging findings supported NAION over methotrexate toxicity. Continued chemotherapy without further visual decline strengthened this interpretation, although causality cannot be proven.

CONCLUSION

NAION was the most plausible explanation for acute visual loss in this patient with low-risk GTN receiving methotrexate. A multifactorial mechanism, including GTN-related hypercoagulability and possible hemodynamic factors is suggested, but definitive causation remains uncertain. Recognition of this rare event enabled continued effective treatment, complete remission and fertility preservation. The multidisciplinary follow-up it is essecial for the best resultes in these cases.

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