Title: Unilateral Vision Loss, Acute Mydriasis and Severe Headache as a Result of Recurrent Herpes Zoster Ophthalmicus in a Third Trimester Pregnancy with a Known Pituitary Microadenoma

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Background: Acute neurologic symptoms with associated physical examination findings warrant immediate evaluation. Disease processes that contribute to ophthalmologic-related symptoms such as blurry vision, diplopia, mydriasis and headaches include cerebrovascular events such as ischemic and hemorrhagic stroke, intracranial masses including pituitary tumors and neuroinfectious processes. Trauma and medication side effects may also be causative. Herpes zoster (HZ) can occur in pregnant patients, and while there is no increased risk of fetal or maternal mortality, maternal morbidity is increased. Herpes zoster ophthalmicus (HZO) is a recognized complication of HZ, occurring due to viral reactivation in the V_1/ophthalmic division of the trigeminal nerve (CNV). Recognition of HZO and prompt treatment with antiviral therapy is essential.

Objective: We report the case of a 28 week pregnant patient with a known pituitary microadenoma who presented acutely with blurry vision, fixed right eye mydriasis, right retro-orbital pain, photophobia, and severe headache. Intracranial imaging was performed emergently to evaluate for stroke. There was no evidence of concerning vascular disease or intracranial masses. Further history-taking, neurologic and ophthalmologic examinations supported a diagnosis of herpes zoster ophthalmicus as the etiology of the patient's symptoms and dictated the treatment course.

Case Report: A 34 year-old female, gravida 11 para 4155 at 28 weeks EGA, with a significant medical history of chronic hypertension, PCOS, a BMI > 40 kg/m^2 and a known pituitary microadenoma presented to our emergency department with complaints of acute-onset decreased right visual acuity, headaches, photophobia, retro-orbital pain with "numbness and tingling" around her right eye. Urgent consultations were placed to the intensivist, neurology, and ophthalmology services. Vital signs were within normal limits. Physical examination was notable for a right pupil diameter of 7mm and left pupil diameter of 3mm. The right pupil was non-reactive to direct and indirect light, and the left pupillary reflex was noted to be sluggish. Her EOMs were intact bilaterally. A CT scan of the head revealed no evidence of intracranial hemorrhage, arterial stenosis, venous occlusion, or aneurysm of the head or neck. MRI without contrast revealed a 7mm T1-hypointense lesion on the right side of the pituitary gland. There was no mass effect in the suprasellar or parasellar regions, and the optic chiasm appeared normal. The MRA and MRV were also normal, and there was no evidence for pituitary apoplexy. The patient was admitted for further observation. Laboratory testing including serial glucose values, CBC and electrolytes were essentially normal. Fetal NST monitoring was reassuring. An initial ophthalmology examination did not identify retinal lesions or other pathology. The following day the patient reported a "burning" sensation within and around her right eye, making a reference to a prior severe shingles infection of her face and right eye 4 years ago which required 3 weeks of IV and oral acyclovir treatment.

Oral valacyclovir was initiated, as was oral prednisone for inflammation and pain. The next day, the patient reported that her headache had resolved, and that her orbital pain and burning had improved, and she was discharged on valacyclovir and steroids. A follow up ophthalmologic evaluation 4 days after

discharge revealed vesicular lesions at the lateral canthus of her right eye, consistent with HZO. Her right pupil had decreased to 4.6mm in diameter while her left pupil remained stable at 2.9mm.

Background: Neurologic issues in pregnant patients always warrant further evaluation given the wide range of causative disease processes. Herpes zoster ophthalmicus with isolated pupillary involvement is rare in pregnant patients, but can have significant effects on maternal morbidity, warranting treatment. Prompt ophthalmology consultation, treatment with oral antiviral therapy, routine fetal monitoring, and outpatient follow-up are the mainstays of treatment.