Idiopathic intracranial hypertension induced by low-dose oral doxycycline during the treatment of rosacea

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Learning Objectives
• Low-dose doxycycline carries a risk of Idiopathic Intracranial Hypertension
• Drug side effects should be viewed as a class effect
• Counselling on secondary Idiopathic Intracranial Hypertension prior to starting therapy can lead to early discontinuation and prevention of long-term sequelae.

Take-Away Message
Idiopathic Intracranial Hypertension secondary to low-dose doxycycline or other medications is an important to discuss when counselling patients as these medications are used in high risk populations

Disclosure: The authors have no conflicts of interest to declare
Idiopathic intracranial hypertension (IIH) presents with non-specific symptoms such as headache, pulsatile tinnitus, and visual changes.

Points on the diagnostic criteria:
• Lumbar puncture opening pressure $> 250 \text{ mmHg OR}$
• MRI evidence (especially without papilledema)
• Papilledema and sixth nerve palsy not required for diagnosis

• Medications that have been linked to IIH include vitamin A derivatives, OCP, tetracyclines, other antibiotics, withdrawal from systemic steroids, and cyclosporine
COMMON RISK FACTORS

- Women 15-44 years old
- Obesity
- Weight gain of 2 kg (4 lbs) in the past two months OR significant gains in the last year
- Transverse cerebral venous sinus stenosis

A note on increasing age:
Elderly men > elderly women to acquire IIH with a higher chance of permanent vision loss
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CASE PRESENTATION

39 yo healthy woman with papulopustular rosacea, BMI ~30 and no use of oral contraceptives. In the past, she had a 3 month course of full-dose doxycycline without side effects. After a one month therapeutic break she switched to low-dose (40 mg daily) doxycycline was begun for a 4 month trial.

Presented to the ER 3.5 months later with worsening headaches and non-specific visual changes. Papilledema was discovered and MRI was consistent with transverse venous sinus stenosis. Preserved vision was confirmed by Neuro-ophthalmology.

Neurological exam was otherwise normal and another trigger could not be identified.
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Focal narrowing of the transverse sinus without an intracranial mass.
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Low-dose doxycycline was withdrawn. Her visual symptoms, papilledema, and headache resolved over the next 3 weeks.

No specific treatment was required and she was followed clinically by Neuro-ophthalmology.

No return of her symptoms has occurred.
• We often use associated drugs in high risk individuals

• Cannot screen for anatomic differences in all patients

• Induction of IIH is likely due to a combination of factors

• Low-dose does not always equal more safe

• Counselling on this uncommon, but serious, side effect should be a part of all discussions with patients when starting an associated medication
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Selected references


acknowledgments

The information in this report has been relayed to Galderma as part of post-market surveillance. We appreciate the assistance of The Ottawa Hospital Radiology Department with the MRI image.