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Benign intracranial hypertension after doxycycline use: a forgotten association

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Introduction

Tetracyclines are broad-spectrum bacteriostatic antibiotics effective against gram-positive and gram-negative bacteria. Doxycycline has been widely used in the treatment of acne vulgaris, hidradenitis suppurativa, and rosacea, although its use has declined in recent years. Common adverse effects include gastrointestinal symptoms and dental alterations, while Benign Intracranial Hypertension (BIH) is a rare complication. BIH presents with increased intracranial pressure, headache, and visual disturbances, potentially progressing to blindness if not promptly treated. This study reports a case of BIH secondary to doxycycline use, emphasizing the importance of recognizing this adverse reaction.

Case presentation

A 15-year-old male patient was admitted to the emergency department after referral by an ophthalmologist. He reported holocranial headache, described as alternating between pressure-like and pulsatile, without associated photo or phonophobia, nausea, or vomiting, with an intensity of 8/10, and unresponsive to analgesics. Two days prior to admission, he developed bilateral blurred vision and binocular diplopia. His past medical history was significant for hidradenitis suppurativa, with initiation of doxycycline therapy one month earlier. He denied other symptoms or relevant medical history. Neurological examination revealed bilateral papilledema and bilateral sixth cranial nerve palsy, more pronounced on the left side. No sensory, motor, or coordination deficits were observed. Cranial computed tomography demonstrated bilateral tortuosity of the optic nerves, without changes in brain parenchymal attenuation or other relevant findings. Lumbar puncture was performed, resulting in significant headache relief. Cerebrospinal fluid analysis showed: red blood cells 16/mm^3, absence of leukocytes, protein level of 21 mg/dL, glucose level of 59 mg/dL, negative India ink staining, nonreactive VDRL, negative bacterioscopy and cultures, nonreactive ADA, and absence of BAAR. Further investigation with brain magnetic resonance imaging and magnetic resonance angiography revealed no significant abnormalities. Given the suspicion of benign intracranial hypertension secondary to doxycycline use, the antibiotic was discontinued and acetazolamide was initiated.

Discussion

Drug-induced BIH is a rare condition, more frequently observed in young obese women, commonly presenting with headache and transient visual loss secondary to papilledema. In the present case, the temporal relationship between symptom onset and doxycycline introduction, along with complementary tests excluding other causes of intracranial hypertension, supported the diagnosis. Early recognition and treatment are essential to prevent significant visual impairment, considering the potential reversibility of the condition when promptly managed.

Conclusion

This report highlights BIH as a rare adverse effect of doxycycline. Early diagnosis and prompt specialist evaluation are essential to prevent permanent visual impairment and improve outcomes.

Keywords:
Secondary headache disorders
Doxycycline
Intracranial hypertension

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