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Eyes Don't Lie: Recognizing Hoagland Sign as a Diagnostic Pearl in Infectious Mononucleosis

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ABSTRACT

Introduction: Hoagland Sign, characterized by bilateral periorbital edema, is a subtle but significant clinical clue in Epstein-Barr Virus (EBV) infections. Recognizing this feature can prompt early diagnosis of infectious mononucleosis (IMN), reducing diagnostic delays and unnecessary interventions.

Case Description: We report the case of a 21-year-old female who presented with fever, headache, and bilateral periorbital swelling. Clinical findings included bilateral dacryoadenitis, posterior cervical lymphadenopathy, and tonsillar exudates. Laboratory evaluation revealed leukocytosis, reactive lymphocytosis, thrombocytopenia, and mildly deranged liver function tests. EBV IgM was positive, confirming the diagnosis of EBV-induced infectious mononucleosis. Her symptoms resolved with supportive care and corticosteroids.

Conclusion: This case illustrates the clinical value of Hoagland Sign in early identification of EBV. Awareness of this underrecognized sign may facilitate prompt diagnosis and appropriate management of infectious mononucleosis.

INTRODUCTION

Epstein-Barr Virus (EBV), a member of the Herpesviridae family, is a common viral agent responsible for infectious mononucleosis (IMN), especially in adolescents and young adults. Classical clinical manifestations include fever, pharyngitis, and lymphadenopathy. However, ocular signs such as bilateral periorbital edema, also known as Hoagland Sign, are often overlooked. First described in 1952 by Hoagland, this sign is reported in approximately one-third of IMN cases and may precede classical symptoms [1].

CASE REPORT

A 21-year-old female with no known comorbidities presented with a 7-day history of high-grade fever, bifrontal headache, and bilateral periorbital swelling, which was more pronounced in the mornings. There was no history of rash, breathlessness, or allergic reactions. Two weeks prior, she had experienced neck pain followed by localized pruritus, which subsided with antihistamines. She also had a history of recurrent oral ulcers.

Previously, she was evaluated at a local hospital where a non-contrast CT brain showed right-sided deviated nasal septum (DNS) and a left maxillary sinus polyp. As symptoms persisted, she was referred for further evaluation.

On examination, she was febrile (101.2°F), with mild pallor, bilateral periorbital edema **(Figure 1)**, bilateral tonsillar enlargement with exudates, posterior cervical lymphadenopathy, and signs of bilateral dacryoadenitis. Respiratory examination revealed decreased breath sounds on the right.

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Figure 1.

Blood tests showed normocytic anemia, leukocytosis, thrombocytopenia, and mildly elevated inflammatory markers. Liver function tests indicated mild transaminitis and hyperbilirubinemia. Peripheral smear revealed dimorphic anemia and reactive lymphocytosis. Widal test was negative. Ophthalmology consultation confirmed bilateral dacryoadenitis. EBV IgM serology was positive.

The patient was managed with intravenous corticosteroids and supportive measures, including topical eye drops. Her symptoms gradually improved, with resolution of fever and periorbital swelling **(Figures 2 & 3)**. She was discharged in a stable condition with outpatient follow-up.

Figure 2.

Figure 3.

DISCUSSION

Hoagland Sign refers to bilateral periorbital edema observed in EBV infections and is considered an early manifestation of infectious mononucleosis. It likely results from lymphatic obstruction or inflammation of the lacrimal glands [2,3]. This presentation can easily be misdiagnosed as an allergic or bacterial condition, delaying appropriate management.

Dacryoadenitis is a rare but recognized feature of EBV infection and typically presents bilaterally, in contrast to the unilateral involvement seen in bacterial causes [4]. Ophthalmological examination in our case supported this diagnosis.

Although corticosteroids are not routinely indicated in uncomplicated IMN, their use in cases with significant ocular inflammation or airway compromise is documented and may accelerate recovery [5].

Early recognition of Hoagland Sign can streamline diagnostic evaluation, minimize unnecessary antibiotic use, and avoid excessive investigations. In our patient, the correct diagnosis led to a favorable outcome with conservative management.

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