

## Case Study

### Bilateral Partial Ptosis (Hoagland Sign) as an Unusual Presentation of Acute Epstein–Barr Virus Infection in a Child: A Case Report

SMASM Samarasekara <sup>1</sup>, Senal Kotuwegoda <sup>1</sup>, Ravindu Yahampath <sup>1</sup>

#### Author's Affiliation:

1- Department of Paediatrics, DGH Nuwara Eliya, Sri Lanka.

#### Correspondence:

SMASM Samarasekara, Email: sampath1188@gmail.com

Received on: 22-Feb-2026

Accepted for Publication: 25-Mar-2026

Epstein–Barr virus (EBV) infection commonly presents as infectious mononucleosis with fever, pharyngitis, and lymphadenopathy. Periorbital edema, known as Hoagland sign, is a relatively specific clinical sign of EBV infection and may precede other classical findings. Neurological manifestations are uncommon in children. We report a previously healthy 10-year-old boy who presented with fever, severe sore throat, cervical lymphadenopathy, and bilateral partial ptosis consistent with Hoagland sign. Laboratory investigations showed leukocytosis with lymphocytic predominance and significant atypical lymphocytosis, along with elevated transaminases. EBV PCR was positive. The patient recovered fully with supportive care. This case highlights Hoagland sign as an important early diagnostic clue in EBV infection.

## Introduction

Epstein–Barr virus is a ubiquitous herpesvirus responsible for infectious mononucleosis, particularly in school-aged children and adolescents [1]. The classic triad includes fever, pharyngitis, and lymphadenopathy. Laboratory findings typically reveal lymphocytosis with atypical lymphocytes and mild elevation of liver enzymes [2]. Hoagland first described periorbital edema associated with infectious mononucleosis, now referred to as Hoagland sign, which is considered relatively specific for EBV infection [3]. Although neurological complications occur in 1–5% of cases, isolated bilateral ptosis is rarely reported in children [4].

## Case Presentation

A previously well 10-year-old boy presented with a two-day history of fever (maximum 99.9°F) and severe sore throat with coryzal symptoms. There was no significant contact history. Examination revealed bilateral enlarged tonsils with pustular exudates and significant bilateral submandibular cervical lymphadenopathy. Notably, bilateral partial ptosis was observed, consistent with Hoagland sign (Figures 1–3). Extraocular movements were intact, pupils were equal and reactive, and no other focal neurological deficits were detected. Abdominal examination was normal with no hepatosplenomegaly.

Laboratory investigations demonstrated leukocytosis (24,000/ $\mu$ L) with 75% lymphocytes. Peripheral blood film showed a significant number of atypical lymphocytes. Hemoglobin was 12.5 g/dL and platelet count 193,000/ $\mu$ L. Inflammatory markers showed ESR 24 mm/hr and CRP 32 mg/L. Liver function tests revealed elevated AST (134 U/L) and ALT (195 U/L). Renal function was normal. Throat swab culture was negative for bacterial organisms. Ultrasound abdomen showed no hepatosplenomegaly. EBV PCR returned positive, confirming acute EBV infection.

The patient was initially managed with intravenous ceftriaxone for five days and intravenous dexamethasone for four days due to significant tonsillar inflammation. Antibiotics were completed for ten days and transitioned to

oral co-amoxiclav. No antibiotic-associated rash developed. Clinical improvement was observed within several days, and complete resolution of fever, lymphadenopathy, and ptosis occurred within two weeks.



**Figure 1:** Frontal view demonstrating bilateral partial ptosis (Hoagland sign)



**Figure 2:** Right lateral view showing upper eyelid drooping



**Figure 3:** Left lateral view confirming bilateral involvement

### Discussion

Infectious mononucleosis is most frequently caused by EBV and presents with characteristic systemic findings [1,2]. Hoagland sign refers to transient bilateral upper eyelid edema and ptosis observed in the early phase of EBV infection [3]. It is thought to result from lymphatic obstruction and inflammatory infiltration of periorbital tissues. The presence of Hoagland sign may serve as a valuable early diagnostic clue before serological confirmation.

Neurological manifestations of EBV are uncommon but include meningitis, encephalitis, cranial nerve palsies, and peripheral neuropathies [4]. In this case, preserved pupillary reflexes and ocular motility suggest partial cranial nerve involvement or localized inflammatory edema rather than complete third nerve palsy. The rapid and complete recovery supports a transient immune-mediated mechanism

### Conclusion

This case highlights Hoagland sign as a relatively specific and under-recognized clinical sign of EBV infection in children. The presence of atypical lymphocytosis further strengthens the diagnosis. Recognition of this feature may facilitate early diagnosis and avoid unnecessary investigations. The prognosis is favorable, with spontaneous resolution in most cases.

### Ethical Statement

Written informed consent was obtained from the patient's parents for publication of this case report and accompanying clinical photographs. All identifying information has been anonymized to protect patient confidentiality.

**References**

1. Dunmire SK, Hogquist KA, Balfour HH. Infectious mononucleosis. *Curr Top Microbiol Immunol*. 2015;390:211–240.
2. Luzuriaga K, Sullivan JL. Infectious mononucleosis. *N Engl J Med*. 2010;362:1993–2000.
3. Hoagland RJ. The clinical manifestations of infectious mononucleosis. *Am J Med Sci*. 1952;224:152–160.
4. Tselis A. Epstein–Barr virus infections of the nervous system. *Handb Clin Neurol*. 2014;123:285–305.