

# Acute Parotitis Due to Dengue Virus Infection – A Case Series

M A PATWARY

## Abstract:

*Dengue fever is endemic in Bangladesh. Dengue fever may be complicated with dengue hemorrhagic fever (DHF) and dengue shock syndrome (DSS). Owing to the increase in dengue cases, atypical manifestations are also on the rise. Acute parotitis is one of the important atypical presentations*

*of dengue fever. We report 3 cases of dengue fever manifest as inflammatory enlargement of the parotid glands (acute parotitis). The aim of this report was to create awareness about atypical presentations of dengue fever like acute parotitis.*

*(J Bangladesh Coll Phys Surg 2023; 41: 118-119)*

DOI: <https://doi.org/10.3329/jbcps.v41i40.69736>

## Introduction:

Dengue fever is a viral infection. It is transmitted to humans by bites of mosquito *Aedes Aegypti* and transmit flavivirus with four different antigenically distinct serotypes.<sup>[1-4]</sup> Dengue is a rapidly growing health problem with an estimated 2.5 billion people at risk, mainly in tropical and subtropical temperate or climate zones. The clinical features of dengue range from a relatively minor febrile illness to a life-threatening condition characterized by an extensive capillary leak.<sup>[2]</sup> Acute parotitis presents with fever, headache and bilateral or unilateral swelling of the parotid gland. The parotid gland is usually tender. Here, we report 3 cases, all were treated in the outpatient department.

## Case 1:

A 20-year-old female presented with low grade fever, dry cough, headache, muscle pain for 3 days and painful

swelling of left parotid gland for one day. On day three her complete blood count revealed leucopenia and platelets started to reduce, dengue NS1 test was positive. On day five she complains of persistent pain and tenderness over the left parotid gland. Ultrasonogram was suggestive of parotitis. The rest of the tests are listed in Table 1.

## Case 2:

A 26-year-old female presented with high grade fever, headache, muscle pain for five days and painful swelling of right parotid gland for two days. On day five her complete blood count revealed leucopenia and platelets started to reduce, dengue NS1 test was negative but both (IgM and IgG) dengue antibodies were positive, and in ultrasonography, the right parotid gland appeared to be diffusely enlarged. The rest of the tests are listed in Table 1.

Table-1

*Investigations in the third and fifth day of fever*

Investigation	Case 1 (Third day)	Case 2 (Fifth day)	Case 3 (Fifth day)
WBC	4.6X10 <sup>9</sup> /l	3.5X10 <sup>9</sup> /l	2.8X10 <sup>9</sup> /l
Platelets	216X10 <sup>9</sup> /l	145X10 <sup>9</sup> /l	90X10 <sup>9</sup> /l
ESR	9 mm/hr	6 mm/hr	7 mm/hr
CRP	4 mg/dl	3 mg/dl	6 mg/dl
ALT	38 U/l	42 U/l	33 U/l
AST	42 U/l	55 U/l	47 U/l
Dengue NS1	Positive	Negative	Negative
Dengue IgM & IgG	Negative	Positive	Positive
CXR P/A View	Normal	Not done	Not done
Serum Creatinine	0.8 mg/dl	1.0 mg/dl	0.9 mg/dl
Urine R/M/E	Normal	Normal	Normal

**Address of Correspondence:** Dr. Md. Asaduzzaman Patwary, Medical Officer, Dhaka Medical College Hospital, Email: [dr.asadpatu@gmail.com](mailto:dr.asadpatu@gmail.com)

**Received:** 15 Oct., 2023

**Accepted:** 19 Oct., 2023

**Case 3:**

A 26-year-old female presented with high grade fever, retro-orbital pain, muscle pain for five days and painful swelling of both parotid glands for three days. Initially the right parotid gland was swollen then the left one. On day five her complete blood count revealed leucopenia and platelets started to reduce, dengue NS1 test was negative but both (IgM and IgG) dengue antibodies were positive, and in ultrasonography, both parotid glands appeared to be diffusely enlarged with no evidence of focal involvement. The rest of the tests are listed in Table 1.

**Discussion:**

Dengue virus infection clinically manifests as dengue fever, dengue shock syndrome, and dengue hemorrhagic fever. Typical symptoms during the early febrile stage include fever, malaise, headache, body pains, and rash. Atypical manifestations of dengue can be diverse. Acute parotitis is a common clinical feature of many infectious like viral and bacterial, autoimmune, metabolic, and drug related conditions, and usually the involvement is bilateral. We reported the unilateral and bilateral involvement of the parotid gland following dengue fever which is a rare presentation. Acute infection that involves the parotid glands may be confused with mumps because of the sudden onset. Furthermore, associated fever could raise the suspicion of infection by Coxsackie virus, influenza A virus, and parainfluenza type 3.<sup>[5]</sup> The cases presented here occurred during the dengue outbreak and positive dengue NS1 and IgM antibody suggested the diagnosis of dengue fever. The possible clinical and diagnostic implications of detection of dengue virus in saliva during acute infection deserve further evaluation.<sup>[6]</sup>

**Conclusion:**

Owing to the increase in dengue cases, atypical manifestations are also on the rise. Therefore, it is vital to be aware of the atypical manifestations. Physicians should have appropriate preparedness to deal with parotid gland involvement in dengue infection

**Conflict of Interest:**

The authors stated that there is no conflict of interest in this study.

**Funding:**

This research received no external funding.

**Ethical consideration:**

The study was conducted after approval from the ethical review committee of Dhaka Medical College Hospital, Dhaka, Bangladesh. The confidentiality and anonymity of the study participants are maintained.

**Consent for Publication:**

Written informed consent was obtained from the patients for publication of this article.

**References:**

1. Scott B Halstead. *Lancet*. 2007 November 10;370(9599):1644–52. DOI: [http://doi.org/10.1016/S0140-6736\(07\)61687-0](http://doi.org/10.1016/S0140-6736(07)61687-0).
2. Vaughn DW, Green S, Kalayanaraj S, Innis BL, Nimmannitya S, Suntayakorn S, Endy TP, Raengsakulrach B, Rothman AL, Ennis FA, Nisalak A. Dengue viremia titer, antibody response pattern, and virus serotype correlate with disease severity. *The Journal of infectious diseases*. 2000 Jan 1;181(1):2-9.
3. Friberg H, Bashyam H, Toyosaki-Maeda T, Potts JA, Greenough T, Kalayanaraj S, Gibbons RV, Nisalak A, Srikiatkachorn A, Green S, Stephens HA. Cross-reactivity and expansion of dengue-specific T cells during acute primary and secondary infections in humans. *Scientific reports*. 2011 Aug 1;1:51.
4. World Health Organization, Special Programme for Research, Training in Tropical Diseases, World Health Organization. Department of Control of Neglected Tropical Diseases, World Health Organization. *Epidemic, Pandemic Alert. Dengue: guidelines for diagnosis, treatment, prevention and control*. World Health Organization; 2009.
5. Zollar LM, Mufson MA. Acute parotitis associated with parainfluenza 3 virus infection. *American Journal of Diseases of Children*. 1970 Feb 1;119(2):147-8.
6. Torres JR, Liprandi F, Goncalvez AP. Acute Parotitis Due to Dengue Virus. *Clin Infect Dis* [Internet]. 2000;31(5):e28–9. Available from: <https://academic.oup.com/cid/articlelookup/doi/10.1086/317454>