



## An 18-year-old female student with fevers, weakness, and dysphagia

John Murtagh

### Case history

An 18-year-old female sought evaluation of lethargy and weakness of 3 days duration. She also complained of fevers with sweating, headaches, nasal blockage, anorexia with two episodes of emesis, and a very sore throat with dysphagia. She had felt ill for the preceding 2 weeks. There has been no contact with persons with infectious diseases.

Medical history: Idiopathic scoliosis; otherwise good health.

Surgical history: Appendectomy for appendicitis.

Drug history: Occasional marijuana and alcohol use.

Social history: Lives with parents and an older brother; studies art at the University.

### Physical examination

General appearance: Young woman who appears pale and ill; periorbital edema and nasal quality to voice.

Pulse, 90/min and regular; BP, 110/70 mmHg; temperature, 38.9°C; respiratory rate, 14/min.

Throat: Tonsillar enlargement bilaterally; white-yellow exudate on tonsils bilaterally; petechiae on palate.

Lymphadenopathy, especially involving the posterior cervical group.

Fine pink maculopapular rash on anterior trunk.

### Questions to consider

1. What is the most likely diagnosis and differential diagnosis?

2. What serious diseases must not be missed?

3. What are the appropriate key investigations?

### Diagnosis

The most likely diagnosis is Epstein-Barr mononucleosis (EBV), also known as glandular fever and infectious mononucleosis.

The main differential diagnosis includes bacterial tonsillitis, especially group A beta-hemolytic streptococcus, and viral tonsillitis (other than EBV).

### Other conditions (uncommon-to-rare) to consider and not to be missed

- human immunodeficiency virus (sero-conversion stage)
- cytomegalovirus
- toxoplasmosis
- diphtheria

Note: A fine, non-specific maculopapular rash occurs as a primary rash in at least 5%–10% of cases of EBV infection.

### Key investigations

- Full blood film, including differential white cell count

### CORRESPONDING AUTHOR:

John Murtagh

Emeritus Professor, Department of General Practice, Monash University, Victoria 3165, Australia

E-mail: [john.murtagh@monash.edu](mailto:john.murtagh@monash.edu)

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- Blood tests for EBV  
e.g., Paul Bunnell or monospot test  
EBV-specific viral capsule antigen  
antibodies (IgM and IgG)
- Throat swab –if bacteria suspected

### Discussion

The patient tested positive for EBV, as expected. Enlargement of the liver and spleen occurs, but sometimes it is difficult to palpate the enlarged organs clinically on physical examination.

### Further questions

1. What is the clinical definition of a fever?
2. What are the possible pitfalls in the management of a patient with tonsillitis?
3. What is the treatment for uncomplicated glandular fever in this patient?

### Answers

1. A fever is defined as an early morning temperature  $> 37.2^{\circ}\text{C}$  or a temperature  $< 37.8^{\circ}\text{C}$  at other times of the day.

Normal body temperature (measured orally) is  $36\text{--}37.3^{\circ}\text{C}$  (average  $36.8^{\circ}\text{C}$ ).

There is considerable diurnal variation in temperature, thus the temperature is usually higher in the evening by approximately  $0.6^{\circ}\text{C}$

Normal average values (morning) are as follows:

Oral	$36.8^{\circ}\text{C}$
Axillary	$36.4^{\circ}\text{C}$
Rectal	$37.3^{\circ}\text{C}$
Otic	$37.3^{\circ}\text{C}$

2. One pitfall is to treat the EBV tonsillitis as bacterial tonsillitis (assuming strep throat) and prescribing penicillin or ampicillin/amoxicillin.

This is associated with no response to treatment and the possible development of a hypersensitivity rash (90% association with ampicillin; 50% with penicillin).

3. The treatment is conservative and supportive (no specific drugs/anti-microbials).

Rest (the best treatment) during the acute stage, preferably at home and indoors.

Ample fluids ensure adequate hydration.

Aspirin ( $>14$  years) or paracetamol to relieve discomfort.

Gargle soluble aspirin or 30% glucose to soothe the sore throat.

Advise against alcohol, fatty foods, and continued activity, especially contact sports.

### Conflict of interest

The author declares no conflict of interest.