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

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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 (seroconversion 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

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Funding: This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Received 23 September 2014;
Accepted 10 November 2014

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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°C or a temperature <37.8°C at other times of the day.

Normal body temperature (measured orally) is 36–37.3°C (average 36.8°C).

There is considerable diurnal variation in temperature, thus the temperature is usually higher in the evening by approximately 0.6°C

Normal average values (morning) are as follows:

Oral	36.8°C
Axillary	36.4°C
Rectal	37.3°C
Otic	37.3°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.