

Bornholm disease

Synonyms: epidemic myalgia, epidemic pleurodynia, Sylvest's disease, Bamble disease and devil's grip

What is Bornholm disease?

Bornholm disease is a viral illness with myalgia, causing pain in the lower chest and upper abdomen. It is usually a self-limiting illness; rarely, there are complications due to the virus. The types of virus involved in Bornholm disease can cause severe illness in neonates.

Causes of Bornholm disease (aetiology)

The disease is usually caused by a Coxsackie group B virus; it is rarely caused by Coxsackie A or echoviruses. All these belong to the group of enteroviruses.

How common is Bornholm disease? (Epidemiology)

- Bornholm disease mainly affects children and young adults.
- It is very contagious and the incubation period is a few days.
- There may be epidemics, usually in spring and autumn in temperate climates.
- [Coxsackie B viral infections](#) are common and can cause a range of conditions from subclinical infection to myocarditis.
- Transmission occurs via the faeco-oral route, including shared drinks containers.

Symptoms of Bornholm disease (presentation)

- Pain in the lower chest/upper abdomen:^[1]
 - Can be sudden in onset; may have spasmodic pain.
 - Typically, it is a pleuritic-type pain exacerbated by deep breathing or movement; it can be severe enough to cause dyspnoea.
 - Duration is normally a few days, but may be ≤ 3 weeks; it can recur/relapse.
- Other symptoms:
 - Fever, headache or nonspecific abdominal pain – either as prodromal symptoms or with the onset of chest pain.
 - Myalgia elsewhere.
 - Symptoms and signs of complications (see 'Prognosis and Complications', below).
- Examination – fever; localised tenderness at the site of the pain. Examination is usually otherwise normal, unless there are complications.^[1]

Investigations

Usually the diagnosis is clinical, but investigations may be needed:

- To exclude other important diagnoses or to assess complications – for example: ECG, CXR, investigations for pulmonary embolus, or other tests according to the clinical picture. CXR is normal in uncomplicated Bornholm disease.
- Viral studies may be useful if there are complications or vulnerable contacts – eg, in neonates or late pregnancy.^[2]

Differential diagnosis

[Other causes of chest pain](#) – including:^[1]

- Pulmonary embolus, pleural effusion.
- Pneumonia.
- Myocardial infarction or pericarditis.
- Pneumothorax.
- Tietze's syndrome.
- Muscle strain or chest trauma.
- Shingles.

Other causes of upper abdominal pain or subcostal pain, including:

- Peptic ulcer.
- Cholecystitis, gallstones or hepatitis.
- Subphrenic abscess.
- Painful splenomegaly - eg, with glandular fever or splenic injury.

Management of Bornholm disease

- Exclude other important diagnoses.
- Supportive treatment - analgesia.
- Consider the risk to neonates (see 'Pregnancy', 'Neonatal enteroviral infection' and 'Prevention' sections, below).

Prognosis and complications of Bornholm disease

In general, the literature suggests that many or most cases are uncomplicated.

Reported complications, mainly from case reports, are:

- Pericarditis and myocarditis; possibly, myocarditis is more common in young children and pericarditis in adults.
- Transient paroxysmal tachycardia (one case report, probably due to myocarditis).

- [Orchitis](#).
- [Viral meningitis](#).
- Other complications of Coxsackie and echoviral infections include respiratory infection, skin or oropharyngeal manifestations, and transient paralytic illness.

Possible associations have been suggested between Coxsackie B virus and chronic fatigue syndrome and type 1 diabetes. Little evidence currently exists to support this.^[3]

Pregnancy^[2]

- Enteroviral infections in pregnancy are common.
- Most cases in pregnant women are probably not associated with significant maternal or fetal disease. However, there is a risk of severe illness in neonates (see below).
- Enteroviral infections in pregnancy are not known to cause any fetal abnormalities.
- Coxsackie virus B infections may increase the risk of spontaneous early abortions and (rarely) fetal myocarditis.^[4]

Neonatal enteroviral infection

Transmission

- Vertical transmission of Bornholm disease from mother to neonate has been documented. The virus is probably transmitted by vaginal or faeco-oral routes.^[5] Other plausible routes of transmission are transplacental spread, contact with maternal body fluids or respiratory transmission.^[6] ^[7]
- Enterovirus may be present in breast milk while the mother has an enteroviral infection, but it is not known whether breast milk is a significant mode of transmission.^[6]

Clinical features and management

- Neonatal enteroviral infection varies in severity, from asymptomatic to severe or fatal systemic illness.^[6] The infant may have hepatitis, myocarditis, and meningoencephalitis.^[7]
- The timing of delivery in relation to maternal illness is probably important, as it determines whether the neonate has received any maternal antibodies to the virus.^[5]
- Immunoglobulin is advised for prophylaxis of exposed neonates (see 'Prevention', below).
- Treatment is supportive. In case reports, other treatments used include intravenous gammaglobulin.^[8]

Prevention of Bornholm disease

Neonatal exposure^[2]

- Immunoglobulin has been used as a therapeutic agent for neonates with enterovirus disease. However, clinical efficacy has not been proven and specialist advice should be sought.

General precautions

- Handwashing and good hygiene.
- Avoidance of sharing utensils used for food and drink.

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