

## CHANCROID

### ✓ DISEASE AND EPIDEMIOLOGY

#### **Clinical Description:**

An acute bacterial infection localized in the genital area and characterized by single or multiple painful, necrotizing ulcers at the site of the infection. The ulcers are frequently accompanied by painful swelling and suppuration of regional lymph nodes.

#### **Causative Agent:**

Chancroid is caused by *Haemophilus ducreyi*, which is a gram-negative coccobacillus.

#### **Differential Diagnosis:**

The differential diagnosis for chancroid includes syphilis, lymphogranuloma venereum, trauma to penis, and drug eruptions

#### **Laboratory identification:**

Chancroid is typically identified via culture by the identification of *H. ducreyi* from genital or bubo material and the exclusion of other diseases associated with similar clinical findings, especially ulcers caused by herpes simplex, syphilis, lymphogranuloma venereum or granuloma inguinale. Direct examination of clinical material by gram stain may strongly suggest the diagnosis if large numbers of gram-negative coccobacilli are seen. Confirmation by recovery of *H. ducreyi* from a genital ulcer or lymph node aspirate is the more available alternative diagnosis test. Special culture media and conditions are required for isolation; if chancroid is suspected, the laboratory should be informed. Purulent material recovered from intact bubos is almost always sterile.

#### **Treatment:**

Successful treatment for chancroid cures the infection, resolves the clinical symptoms and prevents transmission to others.

#### Recommended Regimens:

Azithromycin 1 g orally in a single dose

OR

Ceftriaxone 250 mg intramuscularly (IM) in a single dose

OR

Ciprofloxacin 500 mg orally twice a day for 3 days

OR

Erythromycin base 500 mg orally three times a day for 7 days

#### **Case fatality:**

Chancroid is not fatal.

**Reservoir:**

Humans are the source of infection.

**Transmission:**

Chancroid is transmitted by direct sexual contact with discharges from open lesions and pus from buboes. Auto-inoculation to non-genital sites may occur in infected persons. Beyond the neonatal period, sexual abuse must be considered when chancroid is found in children.

**Susceptibility:**

Susceptibility is general: uncircumcised men are at higher risk than those who are circumcised. There is no evidence of natural resistance.

**Incubation period:**

The incubation period is from 3-5 days and up to 14 days.

**Period of communicability:**

The period of communicability lasts until the original lesion or discharging regional lymph node is healed – up to several weeks without antibiotic therapy. Antibiotic therapy eliminates *H. ducreyi* and lesions heal in 1-2 weeks.

**Epidemiology:**

Chancroid is endemic in many countries in the developing world. The World Health Organization (WHO) estimates that the annual incidence is about 7 million. However, the reported cases of chancroid in the U.S. have steadily declined since 1987. Reported cases of chancroid declined from 4,986 cases in 1987 to 24 cases in 2010. Only nine states reported one or more cases of chancroid in 2010 (Alabama, California, Florida, Massachusetts, North Carolina, South Carolina, Tennessee, Texas, and Washington). While chancroid is not widespread, and since it is difficult to culture, it is believed to be substantially under-diagnosed and under-reported.

 **PUBLIC HEALTH CONTROL MEASURES****Public health responsibility:**

- Investigate all suspect cases of disease and fill out and submit appropriate disease investigation forms.
- Provide education to the general public, clinicians, and first responders regarding disease transmission and prevention.
- Identify clusters or outbreaks of this disease.
- Identify sources of exposure and stop further transmission.

**Prevention:**

Emphasis should be placed on early detection and effective treatment of patients and their contacts.

- Educate the community in general health promotion measures;
  - Provide health and sex instruction that teaches the value of delaying sexual activity until the onset of sexual maturity as well as the importance of establishing mutually monogamous relationships and reducing the numbers of sexual partners;
  - Protect the community and control STDs in sex workers and their clients;
  - Discourage multiple sexual partners and anonymous or casual sexual activity;
  - Teach methods of personal prophylaxis applicable before, during and after exposure, especially the correct and consistent use of condoms;
- Provide healthcare facilities for early diagnosis and treatment;
  - Encourage their use through education of the public about symptoms of sexually transmitted infections and modes of spread;
  - Make these services culturally appropriate and readily accessible and acceptable, regardless of economic status;
  - Establish intensive partner notification;
  - Follow cases serologically to exclude other sexually transmitted infections such as syphilis and HIV.

### **Chemoprophylaxis:**

Contacts of patients who have chancroid are those who have had sexual contact during the time period from 10 days preceding the patient's onset of symptoms until the date of diagnosis. All contacts should be examined and treated, regardless of whether symptoms of the disease are present. See [treatment](#) for more information.

### **Vaccine:**

None

### **Isolation and quarantine requirements:**

**Isolation:** Avoid sexual contact until all lesions are healed.

**Hospital:** Body substance precautions

**Quarantine:** Not applicable

## ✓ CASE INVESTIGATION

### Reporting:

Chancroid is a reportable disease. Below is a table that should be used to determine whether a case should be reported to public health authorities:

| Criterion   | Reporting |   |   |   |
|---|-----------|---|---|---|
|   |           |   |   |   |
| <i>Clinical Evidence</i>  |           |   |   |   |
| Painful, genital ulcer  | N         | N | N |   |
| Genital ulcer(s) is not typical of disease caused by herpes simplex virus   |           | N |   |   |
| Healthcare record contains a diagnosis of chancroid   |           |   |   | S |
| <i>Laboratory findings</i>  |           |   |   |   |
| Isolation of <i>H. ducreyi</i> from a clinical specimen (genital ulcer or inguinal lymph node)  | N         |   |   |   |
| No evidence of <i>Teponema pallidum</i> infection by darkfield microscopic examination of ulcer exudate   |           | O | O |   |
| No evidence of <i>Treponema pallidum</i> infection by serologic test for syphilis performed greater than or equal to 7 days after onset of ulcers: <ul style="list-style-type: none"> <li>• Current serologic test for syphilis is nonreactive* or</li> <li>• Current serologic test for syphilis is reactive with a titer <math>\leq</math> titer (within one dilution) of prior reactive serologic test for syphilis</li> </ul> |           | O | O |   |
| Negative culture for herpes simplex virus from a clinical specimen  |           |   | N |   |

Notes:

S = This criterion alone is sufficient to report a case.

N = All "N" criteria in the same column—in conjunction with at least one of any "O" criteria in each category (e.g., clinical presentation and laboratory findings) in the same column—are required to report a case.

O = At least one of any "O" criteria in each category (e.g., clinical presentation and laboratory findings) in the same column—in conjunction with all other "N" criteria in the same column—is required to report a case.

\*A current reactive treponemal serologic test for syphilis and a current nonreactive nontreponemal serologic test for syphilis are indicative of past—but not current—syphilis infection. A current reactive non-treponemal serologic test for syphilis and a current nonreactive treponemal serologic test for syphilis are indicative of a false positive test.

**Case definition:**

**Chancroid (2010):**

Epidemiologists classify chancroid infections according to the following:

| Criterion   | Case Definition |          |   |
|---|-----------------|----------|---|
|   | Confirmed       | Probable |   |
| <i>Clinical Evidence</i>  |                 |          |   |
| Painful, genital ulcer  | N               | N        | N |
| Inguinal lymphadenopathy  | N               | N        | N |
| Genital ulcer(s) is not typical of disease caused by herpes simplex virus   |                 |          | N |
| Healthcare record contains a diagnosis of chancroid   |                 |          |   |
| <i>Laboratory findings</i>  |                 |          |   |
| Isolation of <i>H. ducreyi</i> from a clinical specimen (genital ulcer or inguinal lymph node)  | N               |          |   |
| No evidence of <i>Teponema pallidum</i> infection by darkfield microscopic examination of ulcer exudate   |                 | O        | O |
| No evidence of <i>Treponema pallidum</i> infection by serologic test for syphilis performed greater than or equal to 7 days after onset of ulcers: <ul style="list-style-type: none"> <li>• Current serologic test for syphilis is nonreactive* or</li> <li>• Current serologic test for syphilis is reactive with a titer ≤ titer (within one dilution) of prior reactive serologic test for syphilis</li> </ul> |                 | O        | O |
| Negative culture for herpes simplex virus from a clinical specimen  |                 | N        |   |

Notes:

N = All “N” criteria in the same column—in conjunction with at least one of any “O” criteria in each category (e.g., clinical presentation and laboratory findings) in the same column—are required to confirm a case.

O = At least one of any “O” criteria in each category (e.g., clinical presentation and laboratory findings) in the same column—in conjunction with all other —”N” criteria in the same column—is required to confirm a case.

\*A current reactive treponemal serologic test for syphilis and a current nonreactive nontreponemal serologic test for syphilis are indicative of past—but not current—syphilis infection. A current reactive non-treponemal serologic test for syphilis and a current nonreactive treponemal serologic test for syphilis are indicative of a false positive test.

### **Clinical Description**

A sexually transmitted disease characterized by painful genital ulceration and inflammatory inguinal lymphadenopathy. The disease is caused by infection with *Haemophilus ducreyi*.

### **Laboratory Criteria**

Isolation of *H. ducreyi* from a clinical specimen.

### **Case Classification**

*Probable*: a clinically compatible case with both a) no evidence of *Treponema pallidum* infection by darkfield microscopic examination of ulcer exudate or by a serologic test for syphilis performed greater than or equal to 7 days after onset of ulcers and b) either a clinical presentation of the ulcer(s) not typical of disease caused by herpes simplex virus (HSV) or a culture negative for HSV.

*Confirmed*: a clinically compatible case that is laboratory confirmed

### **Case Investigation Process:**

Investigators should:

- Fill out a morbidity form
- Conduct a Client Interview (STD case interview)
- Fill out a client interview record on original patient and field records for contacts identified
- Conduct field investigations on contacts
- Treatment and follow-up for contacts
- Fill out interview record

### **Outbreaks:**

An outbreak is defined as one case being reported.

### **Identification of case contacts:**

The contact investigation is an integral part of finding contacts and source of infection. All sexual contacts that were exposed within the 10 days preceding onset of symptoms should receive an examination and treatment regardless of whether symptoms of the disease are present.

### **Case contact management:**

A fundamental feature of programs for chancroid control is the interviewing of patients to identify sexual contacts from whom infection was acquired in addition to those whom the patient infected. Trained interviewers obtain the best results. All identified sexual contacts of confirmed case of chancroid should be examined and treated, regardless of symptoms, if they had sexual contact with the patient during 10 days preceding the patient's onset of symptoms.

## ✓ REFERENCES

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