LYMPHOGRANULOMA VENEREUM
See also Chlamydia Trachomatis

Background
1. Definition
   - Sexually transmitted disease
   - Caused by L1, L2, and L3 serovars of Chlamydia trachomatis
   - Characterized by a transient genital ulcer and inguinal adenopathy
   - Also referred to as
     - Climatic bubo
     - Lymphogranuloma inguinale
     - Durand-Nicholas-Favre disease

2. General information
   - Has 3 stages of infection similar to syphilis
   - Usually clinic diagnosis in context of epidemiologic information and C trachomatis testing if available

Pathophysiology
1. Pathology
   - Invasion of lymphatic tissue by Chlamydia
   - Leads to lymphoproliferative reaction
   - Usually direct extension from primary site to lymph nodes
   - Organism multiplies within macrophages in lymph nodes
   - Necrosis occurs within the nodes with abscess formation
   - May lead to multiple sinus tracts and scarring
   - Three stages of infection
     - Primary infection
       - 3-12 day incubation period
       - Characterized by a small genital ulcer or mucosal inflammatory reaction
       - Self-limited
     - Secondary infection
       - 2 to 6 weeks later
       - Direct extension to regional lymph nodes
       - Can cause an inguinal syndrome in men w/inflammation of deep and superficial inguinal nodes (“groove sign”)
       - Proctitis may occur after receptive anal intercourse
       - Constitutional signs may be present
     - Tertiary infection (rare)
       - Fibrosis and strictures in the anogenital tract

2. Incidence, prevalence
   - Endemic regions
     - East and West Africa
     - India
     - Parts of SE Asia
     - The Caribbean
     - 2-10 % of genital ulcer disease in India and Africa
   - Rarely found in developed countries
   - However, since 2003 outbreaks in Europe and USA
Mainly among MSM
- Especially those infected w/HIV

3. Risk factors
  - Acute infection reported 5 x more often in men than women
  - Late complications more common in persons who have receptive anal intercourse
  - Peak age range 15-40 yo.
  - Unprotected sex
  - Sex in endemic countries
  - Multiple sexual partners

4. Morbidity/ mortality
  - Complete cure w/early recognition and treatment
  - Rarely systemic spread w/arthritis, pneumonitis, hepatitis or perihepatitis
  - Third stage of disease can lead to permanent sequelae
    - Genital deformity (esthiomene)
    - Lymphatic obstruction with genital elephantiasis
    - Rectal strictures and fistulas
    - Death (rare) may be caused by complete bowel obstruction and perforation

Diagnostics
1. History
  - Symptoms
    - Onset
    - Location
    - Duration
    - Severity
    - Ask specifically about
      - Genital or rectal ulcerations
      - Lymph node swelling
      - Symptoms of acute proctitis
    - Low-grade fever, chills
    - Myalgias
    - Abdominal pain
    - Rectal pain or bleeding, tenesmus
  - Sexual history
    - New partners
    - Number of partners
    - Oral, anal or vaginal penetration
    - Condom use
    - Past STD history
    - HIV status

2. Physical examination
  - Look for signs of various stages
  - Primary
    - Small painless papule or herpetiform ulcer at site of inoculation
      (vagina, penis, rectum or cervix)
  - Secondary
• Large tender usually unilateral inguinal/ femoral lymphadenopathy also referred to as buboes
• **Groove sign:** enlargement of nodes above and below the inguinal ligament in inflammation of deep and superficial inguinal nodes
• Suppurative or ruptured lymph nodes
• Bloody, purulent or mucous discharge from the anus (proctitis)
• Large buboes more frequent in men
• Women may complain of pelvic pain (inflammation of deep iliac or perirectal nodes)
• Low-grade fever
  o Tertiary
    • Genital scarring with ischemia and tissue necrosis (esthiomene)
    • Genital elephantiasis
    • Perirectal abscess, fistulas, strictures
    • Hyperplasia of intestinal and perirectal lymphatics (lymphorrhoids)

3. Diagnostic testing
   o Primary
     • Swab lesion using a Nucleic Acid Amplification Test kit for Chlamydia
     • Culture can be done but low yield
     • Serology not useful at this stage
   o Secondary
     • Aspirate buboes for culture or Nucleic Acid Amplification testing
     • Can do rectal, vaginal or urethral swabs for Nucleic Acid Amplification testing
     • Urine testing with Nucleic Acid Amplification Test
     • Nucleic Acid Amplification testing
       • Includes PCR, LCR, TMA, and SDA tests
       • Does not differentiate between LGV and non-LGV serovars
       • of Chlamydia
       • Further identification of a positive test can be confirmed via the CDC [http://www.cdc.gov/std/lgv/LGVflowchart5-22-2006.pdf](http://www.cdc.gov/std/lgv/LGVflowchart5-22-2006.pdf)
     • Serology useful if direct detection unsuccessful, but not well standardized (SOR:C)
       • Complement fixation (CF) for chlamydia
         o Titer > 1:64
       • Microimmunofluorescence (MIF) test (more specific)
         o Titer > 1: 256
         o Low titer cannot exclude LGV, high titer in absence of symptoms cannot confirm LGV

* Nucleic Acid Amplification testing can only be done rectally and orally if approved by lab being used. Check with lab before sending.

**Differential Diagnosis**
1. Key DDx
  o Genital Herpes
  o Syphilis
  o Chancroid
Granuloma Inguinale (Donovanosis)
- Cat Scratch Disease
- Crohn's Disease

2. Extensive DDx
- Visible strictures from carcinomas
- Tuberculosis
- Infectious Mononucleosis
- Tularemia
- Brucellosis
- Bubonic plague
- Lymphoma

Therapeutics
1. Acute treatment
   - First line: doxycycline 100 mg PO twice a day x 21 days (SOR:B)\(^5\)
   - Alternative: erythromycin base 500 mg PO four times a day x 21 days (SOR:B)\(^5\)
   - Possible: azithromycin 1 g PO once weekly for three weeks (SOR:C)\(^6,7\)

2. Further management
   - Pain relief for active bowel inflammation or for painful buboes
   - Consider aspiration of buboes to avoid rupture and tract formation
   - Incision and drainage
     - Recommended by some
     - Others feel it delays healing
   - Notify and test all sexual contacts within last 2 months
   - Consider other STD screenings, esp. for syphilis and HIV

3. Long-Term Care
   - Sexual risk reduction behavior education (SOR:B)\(^8\)
   - If sequelae present, tailor to those complications

Follow-Up
1. Weekly for 4 weeks or until resolved (Test of cure necessary)
2. Advise sexual abstention until treatment completed and clinical manifestations resolved
3. Report to local health department
4. Specialty consultation for sequelae

Prognosis
1. Complete cure if treated in primary or early secondary stage
2. Permanent genital tract changes if not treated before scarring occurs

Prevention
1. Reduction of risky sexual behavior (SOR:B)\(^8\)
2. Prompt identification and treatment of sexual contacts
3. Condoms probably confer some risk reduction (SOR:C)\(^1\)

http://www.cdc.gov/std/lgv/default.htm (link to CDC LGV project)
References

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