

2016 European guideline on donovanosis

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Abstract

Donovanosis is a rare sexually transmitted infection now mainly seen in sporadic cases in Papua New Guinea, South Africa, India, Brazil and Australia. The causative organism is *Calymmatobacterium granulomatis* though a proposal has been put forward that the organism be reclassified as *Klebsiella granulomatis* comb. nov. The incubation period is approximately 50 days with genital papules developing into ulcers that increase in size. Four types of lesions are described - ulcerogranulomatous, hypertrophic, necrotic and sclerotic. The diagnosis is usually confirmed by microscopic identification of characteristic Donovan bodies on stained tissue smears. More recently, polymerase chain reaction (PCR) methods have been developed. The recommended treatment is azithromycin 1 g weekly until complete healing is achieved.

Introduction

The causative organism is *Calymmatobacterium granulomatis*. However, based on evidence of phylogenetic similarity with *Klebsiella sp*, a proposal was put forward that the organism be reclassified as *K.granulomatis comb nov* though this is debated and not yet resolved [1,2]. The organism is a Gram negative facultative aerobe.

The condition has been known under many terminologies other than donovanosis including granuloma inguinale and granuloma venereum. The prevalence of donovanosis has decreased markedly in recent times and the condition can now almost be classified as a sporadic disease. Cases are still reported from Papua New Guinea, South Africa, India, Brazil and Australia although the condition has virtually been eliminated in the latter [3].

DIAGNOSIS

Clinical diagnosis

The incubation period is about 50 days. Papules develop into ulcers that gradually increase in size. Four types of lesions are described [4].

- 1) Ulcerogranulomatous- the most common type with beefy red ulcers that bleed to the touch.
- 2) Hypertrophic- usually with a raised irregular edge,
- 3) Necrotic- offensive smelling ulcer causing tissue destruction,
- 4) Sclerotic or cicatricial with fibrous /scar tissue

The genitals are affected in 90% of cases and the inguinal region in 10%. Cervical lesions are rare but may mimic carcinoma. Extragenital lesions occur in 6% of cases. Lymph gland enlargement is uncommon. Disseminated donovanosis is rare but secondary spread to liver and bone may occur.

Lesions tend to grow more rapidly during pregnancy and atypical cases are reported in children [5].

Squamous cell carcinoma of the penis may both mimic and complicate donovanosis and a biopsy should be done if antibiotics fail to effect resolution of ulcers [6]. As a cause of genital ulceration that bleeds readily, the risk of associated HIV infection is increased and HIV testing and counselling should be considered for all cases [7].

Laboratory diagnosis

Direct microscopy: This is the quickest and most reliable method [8]. A rapid Giemsa method can be used to stain tissue smears that should be prepared by rolling a swab firmly across lesions and rolling this swab evenly across a glass slide to deposit ulcer material [8]. Characteristically there are large mononuclear cells with intracytoplasmic cysts filled with deeply stained Gram negative Donovan bodies. Other stains used include Giemsa, Leishman and Wright's. Previous use of antibiotics makes the definitive diagnosis of donovanosis difficult [9].

Histologic examination for Donovan bodies is best done using Giemsa or Silver stains. The characteristic picture shows chronic inflammation with infiltration of plasma cells and polymorphonuclear leucocytes.

Culture: This has only been accomplished in two laboratories in recent times and is not available routinely [10, 11].

PCR: PCR methods have been used including a colorimetric detection method [12, 13]. A genital ulcer disease multiplex PCR test has been developed using an in-house nucleic acid amplification technique that uses *C. granulomatis* primers [14]. However, no commercial PCR tests for donovanosis are available currently.

Serology: Serologic tests have been developed but are not reliable

If no diagnostic tools are immediately available, a dry swab should be taken and refrigerated while arrangements for PCR testing are made.

MANAGEMENT

Recommended treatment

First line

Azithromycin 1 g weekly or 500mg daily (Grade B, Level 1b) [15].

Alternative therapy

Co-trimoxazole 160/800mg bd (Grade B, Level IIb) [16]

Doxycycline 100mg bd, (Grade C, Level IV) [17] (Trials have not been done but older tetracyclines have been shown to be effective)

Erythromycin 500mg 4 times daily. Recommended in pregnancy (Grade C, Level IV) [18]

Gentamicin 1 mg/kg every 8 hours can also be used as an adjunct if lesions are slow to respond (Grade C, Level III) [19]

Children with donovanosis should receive a short course of azithromycin 20mg/kg (Grade C, Level IV). Children born to mothers with donovanosis should receive prophylaxis with a 3-day course of azithromycin 20mg/kg once daily (Grade C, Level IV) [20].

Duration of treatment should be for at least three weeks or until complete healing is achieved.

Information, explanation and advice for the patient

Patients with donovanosis are often embarrassed or ashamed and reassurance that they have a treatable condition is important, as is the need to take antibiotics until complete healing has been achieved. Tests for HIV and syphilis are recommended

A factsheet for patients has been produced by the New South Wales, Communicable Diseases section, Australia:

<http://www.health.nsw.gov.au/Infectious/factsheets/Pages/Donovanosis.aspx>

Partner notification

Donovanosis is uncommon in partners of index cases but sexual contacts in the last six months should still be checked for possible lesions by clinical examination.

Proposed review date: 2021

QUALIFYING STATEMENT

Decisions to follow these recommendations must be based on professional clinical judgement, consideration of individual patient circumstances and available resources.

All possible care has been undertaken to ensure publication of the correct dosage of medication and route of administration. However, it remains the responsibility of the prescribing clinician to ensure the accuracy and appropriateness of the medication they prescribe.

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Declarations of Interest

Nigel O'Farrell, Harald Moi: none to declare

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Authors' note

A list of contributing organisations can be found at:

www.iusti.org/regions/Europe/euroguidelines.htm

Composition of the IUSTI European STI Guidelines Editorial Board

The composition of the current IUSTI European STI Guidelines Editorial Board can be found at: http://www.iusti.org/regions/Europe/pdf/2014/Editorial_Board2014.pdf

Search Strategy

A Medline search using the terms donovanosis and granuloma inguinale between 1950-2015 was undertaken

Review of STI guidelines published by the US Centres for Disease Control and UK National Guidelines (www.bashh.org)

Levels of evidence and grading of recommendations

Tables of levels of evidence and grading of recommendations that were used in the present guideline can be found at: http://www.iusti.org/regions/Europe/pdf/2013/Levels_of_Evidence.pdf

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