



# UK National Guideline for the management of Donovanosis 2018

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## Introduction

The objective of this guideline is to provide guidance for the diagnosis and management of Donovanosis, a now rare sexually transmitted infection. This guidance is primarily for professionals working in UK Sexual Health services (although others may find it useful) and refers to the management of individuals presenting with possible symptoms of Donovanosis who are over the age of 16.

An updated literature review since the last CEG guideline produced for this condition in 2011 has shown few new developments. Most reports in the literature relate to cases of unusual presentations of the condition.

## Methods

Search strategy: A Medline search using the terms donovanosis and granuloma inguinale between 1950 and 2017 was undertaken. Due to the rarity of the condition in the UK piloting of the guideline was not considered possible and we were not able to locate a patient to provide input or identify patient representatives to review the guideline.

## Aetiology

There is still debate about the correct nomenclature of the causative organism. The cause was originally identified as *Calymmatobacterium granulomatis*. However based on evidence of phylogenetic similarity with *Klebsiella* species, a proposal was put forward that the organism be reclassified as *Klebsiella granulomatis comb nov* [1]. However similarities of only 95% to *Klebsiella* were identified in another study [2].

## Transmission

Donovanosis is always sexually transmitted has been questioned. However, the majority of cases are in the 20-40 age group; the most sexually active. Amongst sexual partners of index cases, wide variations in the rates of infection have been reported ranging from 1-2 % in Papua New Guinea [3] and the USA [4] to 50% of marital partners in India [5, 6].

## Epidemiology

Donovanosis is now a rare infection and appears to be dying out. The main foci in recent times have been in Papua New Guinea, southern Africa, parts of India and Brazil. An eradication programme in Australia has led to its virtual elimination there [7].

As a cause of genital ulceration that bleeds readily, the risk of associated HIV infection is increased and HIV testing should be recommended for all cases [8].

## Clinical features

The first sign of infection is usually a firm papule or subcutaneous nodule that later ulcerates. Four types of donovanosis are described classically [9]:

- 1) Ulcerogranulomatous is the most common variant; non tender, fleshy, exuberant, single or multiple, beefy red ulcers that bleed readily when touched.
- 2) Hypertrophic or verrucous type, an ulcer or growth with a raised irregular edge, sometimes with a walnut appearance.
- 3) Necrotic, usually a deep foul smelling ulcer causing tissue destruction.

4) Sclerotic with extensive fibrous and scar tissue.

The genitals are affected in 90% of cases and the inguinal area in 10%. Extragenital cases occur in 6% of cases- sites include the lip, gums, cheek, palate, and pharynx. Atypical cases are reported in children usually affecting the facial region [10].

Lymphadenitis is uncommon. Dissemination is rare; secondary spread to liver and bone may occur and is usually associated with pregnancy and cervical lesions.

The usual sites of infection are in men, the prepuce, coronal sulcus, frenum and glans penis and in women, the labia minora, and fourchette. Lesions tend to grow more rapidly during pregnancy.

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 [11].

### Laboratory diagnosis

Direct microscopy: This is the quickest and most reliable method. A rapid Giemsa can be used to stain tissue smears that should be prepared by rolling a swab firmly across the ulcer and rolling this swab evenly across a glass slide to deposit ulcer material [12].

Characteristically there are large mononuclear cells with intracytoplasmic cysts filled with deeply stained Gram negative Donovan bodies. These bodies are pleomorphic and sized 1-2 x 0.5- 0.7 $\mu$ m. Depending on the stain used bipolar densities and a capsule may be visible.

Histologic examination for Donovan bodies is best done using Giemsa or Silver stains. The characteristic picture show chronic inflammation with infiltration of plasma cells and polymorphonuclear leucocytes. Polymerase chain reaction (PCR) methods include a colorimetric detection method [13, 14] and a genital ulcer multiple PCR test using an in house nucleic acid amplification technique with *C granulomatis* primers [15]. However, there are no commercial PCR tests for donovanosis currently available. Culture has only been accomplished in two laboratories in recent times and is not available routinely [16, 17]. Serology has been used in the past but is not reliable or routinely available.

## Management

Samples for analysis should ideally be taken before treatment is given but antibiotics should not be delayed whilst waiting for results. Patients should be reassured that donovanosis is a treatable condition that will be cured if the correct antibiotic course is completed. A fact sheet 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>. Routine screening for other sexually transmitted infections is required.

## Recommended regimens

(all regimens are for 3 weeks or until lesions have completely healed)

1. Azithromycin 1 g weekly or 500mg daily orally: 1B [18].

## Alternative regimens:

1. Co-trimoxazole 160/800mg bd orally: 1B [19]
2. Doxycycline 100mg bd orally: 1C (Evidence is not available from clinical trials but older tetracyclines have been observed to be effective)[20]
3. Erythromycin 500mg 4 times daily orally. Recommended in pregnancy: 1C [21]
4. Gentamicin 1 mg/kg every 8 hours parenterally can also be used as an adjunct if lesions are slow to respond 1C [22]

## Treatment in pregnancy:

1. Erythromycin 500m qds orally is recommended in pregnancy: 1C. Azithromycin could also be used: 1g weekly 1D

## Treatment of children:

1. Azithromycin 20mg/kg orally once daily:1C

Prophylactic antibiotics should be considered in neonates born to mothers with genital lesions; the recommended regimen is azithromycin 20mg/kg once daily for 3 days 1C [23].

### Partner management

In the absence of any reliable screening test and the long incubation period, all sexual contacts of cases in the last 6 months should be checked for possible lesions by clinical examination.

### Follow up

Patients should be followed up until lesions have healed completely.

Auditable outcome measures: All cases should be subjected to clinicopathological review by an experienced microscopist

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