

## Venereology in Denmark

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In Denmark there are 5 departments of dermato-venereology. Walk-in examination for venereal diseases is offered at 4 of these departments, situated in Copenhagen, Aarhus, and Odense, and by appointment at the department in Roskilde. Opening hours vary considerably between the different clinics. The largest venereology clinic is situated at Bispebjerg Hospital (BBH), Copenhagen, which carries out approximately 27,000 patient consultations per year.

At the Danish Society of Dermatology (DDS), there is a working committee on venereal diseases, which includes representatives from at least the 3 largest venereology clinics and 1 doctor representing the private practice of dermato-venereologists. This forum enables the exchange of ideas and creates a common voice regarding public matters and standardization of local guidelines on sexual transmitted diseases (STD).

This overview describes what is happening on a national level regarding STDs in Denmark, with a special focus on the venereology clinic at BBH.

### Condyloma acuminata

As condylomas are not a notifiable STD in Denmark, it can be difficult to assess the exact number of patients. A Danish study has estimated that the cost of examination and treatment for condylomas in Denmark is approximately 58 million Danish crowns.

At the venereology clinic at BBH the examination and treatment of condylomas has constituted approximately 5,000 patient consultations per year in recent years. This high number of clinic-based treatments of condylomas has decreased within the last year to approximately 3,000 patient consultations per year, partly due to the introduction of a treatment algorithm that advocates for more home-based treatments. Clinic-based treatment is free of charge for patients in Denmark. For therapy-resistant condylomas CO<sub>2</sub>-laser treatment under local anaesthesia is offered at the venereology clinics at Bispebjerg, Gentofte, Odense and Århus (Marselisborg) Hospital.

In Denmark the quadrivalent HPV vaccine was introduced in January 2009 for 12-year-old girls, with a catch-up programme during October 2008–October 2010 for girls born between 1993 and 1995. The vaccine coverage is high, at 81–82% of girls born between 1996 and 1997 and 78–83% of girls born

between 1993 and 1995 (the “catch-up group”). We expect a decline in the prevalence of condylomas among young Danish women, as seen in Australia, with a herd-effect on young heterosexual men. This decline may already have started, because, as mentioned above, a decline in treatments for condylomas has been seen in the last year. A second catch-up programme among Danish women up to 26 years of age has started in August 2012, and will run until the end of 2013. The Danish working group on venereal diseases advocates a re-evaluation of the Danish HPV vaccination programme to include boys, as men who have sex with men (MSM) are unaffected by the existing HPV programme.

### Syphilis

As in many other western countries we have experienced an increase in cases of syphilis among MSM. The venereology clinic at BBH has been involved in testing genital ulcers for *Treponema pallidum* DNA with the *Treponema pallidum* polymerase chain reaction (PCR) swab test, in cooperation with the Statens Serum Institute (SSI; www.ssi.dk). We found that the sensitivity of this test is superior to dark-field microscopy (95% if taken from a relevant lesion), and that it has a high specificity (97% if taken from a relevant lesion) as it can distinguish between pathogenic and non-pathogenic treponemes. Examination for *Haemophilus ducreyi*, Herpes simplex virus and *Chlamydia trachomatis* genovar L (*Lymphogranuloma venerum* (LGV) on the same swab is possible. We find that the test is very useful, especially in clinically suspect cases where dark-field microscopy is negative. Asymptomatic patients who present for STD checks are offered syphilis screening with *Treponema pallidum* haemagglutination assay (TPHA) at the venereology clinic in Århus and Architect syphilis TP (chemiluminescent microparticle immunoassay) at the venereology clinic at BBH, Copenhagen.

In January 2010 general screening for HIV and syphilis was introduced for pregnant women, who have been screened for hepatitis B since November 2005. In the first year the screening programme found 7 cases of syphilis among pregnant women, of whom 4 were ethnic Danes, 2 from Africa and 1 from Eastern Europe, indicating that syphilis might be increasing in the heterosexual population.

At the venereology clinic at BBH we diagnosed 173 cases of syphilis in 2011, of whom 11 were women.

## Chlamydia

Chlamydia in Denmark has increased from 13,930 laboratory-confirmed cases a year in 1999 to 29,825 cases in 2009. However, it seems that the increase has stabilized; 27,932 cases of chlamydia were found in 2010, and further dropped to 26,617 cases in 2011. Only 38% of the laboratory-confirmed tests are from men. MSM and female sex-workers are offered screening for chlamydia from the throat and rectum as standard, and such screening is considered for heterosexual women who engage in anal sex. Every confirmed positive result of rectal chlamydia infection is sent to the SSI for LGV, *Chlamydia trachomatis* genovar L typing.

## Gonorrhoea

Gonorrhoea has been increasing, from 178 laboratory-confirmed cases in 1996 to 498 in 2011. Men comprise 80% of positive results, of whom 44% are MSM. For these positive cases, 91% of MSM and 64% of heterosexual men catch the infection in Denmark. Of the heterosexual men who are over 40 years old, 46% catch the infection abroad. At the venereology clinic at BBH we diagnosed 226 cases of gonorrhoea in 2011, of whom 27 were women.

## Mycoplasma genitalium

*Mycoplasma genitalium* is a well-known cause of urethritis and cervicitis. In Denmark screening for *Mycoplasma genitalium* is not included in standard screening for STD. If a patient with urethritis has negative tests for chlamydia and gonorrhoea then they are examined for *Mycoplasma genitalium*. Unfortunately an increasing proportion of Mg has acquired a mutation, making the bacteria resistant to azithromycin. This may be explained partly by the fact that a single dose of 1 g of azithromycin is the first-line treatment for microscope-verified non-gonorrhoeic urethritis, and this is given before the test result for chlamydia and gonorrhoea is available. If the initial treatment is doxycycline, as is the case in other Scandinavian countries, this might reduce problems with resistant Mg strains. At the venereology clinic at BBH the treatment regimen has therefore been changed.

## HIV

The incidence of HIV in Denmark has remained unchanged for several years. In 2011, 262 cases were diagnosed, of whom approximately 60% were of Danish nationality. Among Danish men, 68% were MSM. Venereology clinics in Denmark are only involved in diagnosing HIV; after diagnosis patients are referred to departments of infectious diseases. At the venereology clinic at BBH we invite newly diagnosed HIV patients to talk with our health advisor, who also offers sexual contract tracing, which can be anonymous.

Legislation on venereal diseases in Denmark was changed from obligatory to voluntary examination and treatment for

venereal disease in 1988. The Danish Health and Medicines Authority concluded that the decrease in syphilis and gonorrhoea between 1986 and 1988 was a result of nationwide campaigns against HIV/AIDS and not due to the legislation. At the same time the HIV epidemic slowed down.

## Hepatitis B and C

MSM are offered screening for hepatitis B and C, as are intravenous (i.v.) drug users and patients from countries with endemic hepatitis B. Persons who are at increased risk of contracting hepatitis B (MSM, i.v. drug users, etc.) who live in the county of Copenhagen, are offered hepatitis B vaccination free of charge at their family doctor.

## Medication – provided by the clinic or self payment

In Denmark, in addition to office-based treatments for condyloma at the venereology clinics, only medication for syphilis and gonorrhoea are provided free of charge to the patient. Patients must buy the medication for herpes, chlamydia, *Mycoplasma genitalium* and home-based condyloma treatments at the pharmacy.

## Research

The venereology clinic at BBH is involved in HPV research. A project testing for pharyngeal and intra-anal HPV infections among patients with condylomas has been conducted and the results submitted for publication. Similarly, a project evaluating the prevalence of chronic oral HPV infections among physicians in various gynaecological and dermatovenereological departments in Denmark has been carried out (data not yet published).

In many western countries the rates of intra-anal dysplasia and anal cancer are increasing. The venereology clinic at BBH has started a pilot study to screen a Danish population of HIV-negative and HIV-positive MSM with intra-anal condylomas for intra-anal dysplasia with anal cytology, HPV testing and high-resolution anoscopy-guided biopsies of condylomas and other lesions suspicious for dysplasia. Lesions that are diagnosed as high-grade dysplasia (anal intraepithelial neoplasia (AIN) 2–3) are treated with non-ablative methods.

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