SOGC
COMMITTEE OPINION

**No.** 8, October 1994

This Committee Opinion has been prepared by the Social and Sexual Issues Committee of the Society of Obstetricians and Gynaecologists of Canada and approved by its Council.

Principal author: Dr. Marc Steben

# SEXUALLY TRANSMITTED DISEASES

# CANADIAN GUIDELINES: THEN, NOW AND THE FUTURE

In 1992, Health Canada has published "Canadian Guidelines for the Prevention, Diagnosis, Management and Treatment of Sexually Transmitted Disease in Neonates, Children, Adolescents and Adults". The Social and Sexual Issues Committee of the SOGC has met to discuss the features of these guidelines and outline areas of development in the near future.

## GLOBAL APPROACH TO SEXUALLY TRANSMITTED DISEASES

Sexually transmitted diseases management relies on a global approach. This approach implies adoption of a combined curative, preventive and public health approach to a patient with an STD and involves paying attention to all of the items shown in table I.

Contributing authors are:
Drs. Richard Boroditsky, Barbara Parish, Peter Woodrow, Dianne Miller, Jean-Victor Guimond, Diane Cabana, Andre Lalonde, and Dr. Robert Lea.

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**TABLE I**

HISTORY OF ILLNESS
EVALUATION OF BEHAVIORAL RISK
PHYSICAL EVALUATION
RAPID TEST(S)
CONFIRMATION TEST(S) IF NECESSARY
DIAGNOSTIC HYPOTHESIS
PALLIATIVE AND/OR DEFINITE TREATMENT
COUNSELLING
NOTIFICATION TO PUBLIC HEALTH AUTHORITIES IF MANDATORY
CONTACT TRACING AND TREATMENT
FOLLOW-UP

## VAGINITIS/VAGINOSIS

Vaginitis is one of the most common problems seen in clinical medicine. The number of identifiable cases, other than trichomoniasis, has increased in the last twenty years. Only trichomoniasis has been clearly associated with sexual transmission. The cause of vaginal discharge is not identified in up to 50 percent of patients outlining the need to adhere strictly to a global approach. Different tests can help to identify the cause of vaginal infection: 1) pH measurement, 2) Potassium hydroxide sniff test and wet mount, 3) wet mount with saline, along with gram stain or STD testing, if necessary.

### A) CANDIDIASIS

Candida is present in the vagina of 15 to 20 percent healthy adult women and in up to 30 to 40 percent of pregnant women. Factors that have been proven to predispose to candidiasis are: pregnancy, antibiotics, uncontrolled diabetes, HIV infection and higher dosage of oral contraceptives. Diagnosis is best made by performing a gram stain of a saline mount of vaginal secretions and identifying leukocytes and budding yeasts. Adding KOH can help in the reading of the wet mount. Cultures should be obtained only in the case of relapsing infection. Treatment can be topical or oral: I) topical imidazole (clotrimazole, econonazole, miconazole, tioconazole) or terconazole are more effective in three day or seven day regimens than in one day regimens; 2) oral azole have been used in Europe since 1989 and fluconazole 150 mg has been shown to be very effective with few side effects and is associated with less relapses than topical but should not be used in pregnant patient. Male partners should be treated only if symptomatic.

## B) BACTERIAL VAGINOSIS

Bacterial Vaginosis (BV) is an ecological problem where lactobacilli are scant and normal vaginal flora bacteria highly increased over their usual concentration. Diagnosis is best made when at least three out of these four criteria are met: 1) vaginal pH 4.5 or greater; 2) positive sniff test; 3) wet mount showing more than 20 percent of clue cells and; 4) greyish homogeneous discharge. Bacterial Vaginosis is thus a syndrome. The diagnosis is not made by a positive culture for Gardnerella vaginalis. Treatment can also be topical or oral. Topical use is associated with a lower rate of side effects but also with a relatively small decrease in efficacy. Clindamycin can be used orally in doses of 300 mg BID for seven days or vaginally HS for seven nights in all female patients (pregnant or not). Metronidazole is cheaper and can be used by giving a 2 g stat oral dose or 500 mg BID for seven days. A metronidazole 5 percent gel to be used BID x five days will shortly be sold in Canada. Treatment of male partners in acute or recurrent cases has never been shown to benefit the female, but treatment of asymptomatic women prior to pelvic surgery or during pregnancy has been shown to reduce infectious complications. Although not proven by case control studies, treatment of asymptomatic women prior to invasive pelvic surgery, such as an abortion, insertion of an intrauterine contraceptive device or endometrial biopsy, may be appropriate.

## C) TRICHOMONAS VAGINALIS

Trichomonas infection is one of the STDs that has been shown to have declined rapidly in prevalence. This infection is an STD. Diagnosis is based on finding a pH of the vaginal secretions of greater than 4.5 and the presence of motile trichomonads on a wet mount, Presence of trichomonads on a Pap smear must be confirmed by another method. Treat all cases and their partners with metronidazole 2 g stat oral dose or 500 mg BID for seven days. In pregnancy use clotrimazole one or two vaginal doses for six days in the first and second trimester of pregnancy.

## GONOCOCCAL INFECTION

Gonococcal (GC) infections are slowly decreasing in Canada but rates of strains resistant to penicillin and tetracyclines are increasing. Asymptomatic infections are frequent. Common symptoms include genital discharge, dysuria and pelvic pain. Diagnosis is made by taking a culture of the cervix after cleaning the endocervical secretions. Rectal specimen in a woman could also be taken because of rectal contamination even in the absence of anal intercourse. If transport medium for GC is used, it should be protected from cold at ambient temperature. Plating should be made within six to eight hours. If this is impossible, the specimen should be streaked on a culture plate and then transported.

Preferred treatments are ceftriaxone 250 mg IM or cefixime 800 mg, ciprofloxacin 500 mg or ofloxacin 400 mg orally in a-single dose. Treatment for possible concomitant chlamydia infection should be added. Test of cure should be obtained from the infected sites and always the rectum. Treatment of all sexual partners is mandatory. Screening should be considered in the same groups as for chlamydia.

## CHLAMYDIA INFECTION

Chlamydia trachomatis (CT) is the most frequent STD notified to health care authorities in Canada. Women are over-represented in these statistics, especially those under 25 years, not using barrier contraception, with a history of previous STD or with a new partner in the last three months, Chlamydia trachomatis is a major cause of silent and overt pelvic inflammatory disease, infertility, ectopic pregnancy and pelvic pain.

The diagnosis is not easy since asymptomatic carriers are frequent in both sexes. The most frequent presentation in women is mucopurulent cervicitis with characteristic yellow pus extruding from a friable cervix when it is first touch. The swab test is positive and the leukocyte count. is greater than 10/HPF. Frequent complaints are dysuria, vaginal discharge, post-coital bleeding, abnormal menstruation and pelvic pain, breakthrough bleeding or OCP.

Testing is difficult to interpret since most antigen related tests have sub-optimal sensitivity (60-70 percent) and specificity (95-98 percent). The Pap smear is inadequate for CT diagnosis. Amplicor, a polymerase chain reaction test will soon be introduced with a sensitivity and specificity of greater than 95 percent.

Treatment is given for a seven day period. The first choice agent being doxycycline 100 mg BID, second choice erythromycin 2 g/day and the third choice ofloxacin 300 mg BID. Azythromycine will soon be released as a first choice agent in an oral 1 g single dose.

Screening should be available for high risk populations (unprotected sexual intercourse, previous STD, contact with an infected person, sexually active women under 25 years of age, street youth), especially before abortion or during pregnancy. Contact tracing and treatment of asymptomatic partner is too often forgotten, leading to reinfection and further spread of this STD.

## PELVIC INFLAMMATORY DISEASE (PID)

Pelvic inflammatory disease is a very deceptive syndrome. Since most PIDs are asymptomatic, estimates of the size of the problem are difficult to obtain. Hospital admissions for PID were 16,000 in 1987/88 alone. This number represents only the tip of the iceberg. Complications from PID are infertility and ectopic pregnancies (1 in every 63 pregnancies in Canada, 1987/88).

Clinical diagnosis is very insensitive (60 percent) and not specific (< 60 percent) even in expert hands. Laparoscopy alone is also imperfect. For the best diagnostic result, laparoscopy should be accompanied by tubal culture and endometrial biopsy. Forty percent of women with cervical CT infection already have endometritis and 20 percent PID. Symptoms of PID include lower abdominal pain of recent onset, metrorrhagia, intermenstrual or postcoital vaginal bleeding, deep dyspareunia and vaginal discharge. Signs include cervical motion tenderness, adnexal tenderness on bi-manual examination, cervicitis and fever (in < 40 percent of cases). Ultrasound examination may be normal. Such a finding does not exclude a diagnosis of PID.

Early treatment is important. Most cases can be treated on an outpatient basis. Outpatient management is acceptable when:

typical findings are present and
mild to moderate illness and
if patient can tolerate oral medications and
patient is judged likely to be compliant

BUT

all patients treated as outpatients should be reevaluated 48 to 72 hours after the initial assessment and
those whose condition has not improved should be admitted to hospital and evaluated by a specialist.

Refer for hospital admission and evaluation by a specialist when:

atypical findings are present
an adnexal mass or tubo-ovarian abscess is present
moderate or severe illness
patient is unable to tolerate oral medication
patient is immunocompromised (including HIV infection)
patient is pregnant or
surgical emergency such as ectopic pregnancy and acute appendicitis cannot be excluded.

If an IUD is present, it should be removed, once antibiotic therapy has been initiated for at least 24 hours and the patient is responding.

New Centres for Disease Control treatment guidelines for outpatient therapy are: one single IM drug treatment for gonococcal infection (see before) and doxycycline 100 mg BID orally for 14 days as first line treatment. Ofloxacine 400 mg orally BID and clindamycine 450 mg orally QID both for 14 days as the second choice. For inpatient treatment, cefoxitin 2 g QID or cefotetan 2 g BID IV and doxycycline 100 mg PO or IV BID are given for at least 48 hours after symptoms have improved then continue doxycycline 100 mg orally BID to complete 14 days as a first choice or clindamycine 900 mg IV TID and gentamycine 2mg/kg IV then 1.5 mg/kg IV or IM TID for at least 48 hours after symptoms have improved then continue with doxycycline 100 mg BID or clindamycin 450 mg QID orally to complete 14 days as second choice.

Treatment of partners must be remembered.

## GENITAL HUMAN PAPILLOMAVIRUS INFECTION

Human Papillomavirus (HPV) infection might be one of the most common STDs affecting 10 to 30 percent of the adult population. The incubation period can vary from to to three months to several years. Life long infection is probably making eradication of HPV impossible by current therapeutic approaches. Some HPV genotypes are strongly linked to anogenital cancer.

Most women infected by HPV have no symptoms. When HPV is present it can be subclinical, apparent but asymptomatic, or cause obvious multiple and polymorphic warty growths or flat lesions.

Treatment can reduce visible lesions but does not seem to alter the risk of neoplastic change. All therapies carry a substantial risk of recurrence. Outpatient therapy is preferred: cryotherapy combined with podophyllotoxine treatment BID for four to seven days ia a good combination especially for busy clinics and/or patients. Tri or bi-chloroacetic acid is preferred for application to mucosa and in pregnancy. 5-FU is teratogenic and should never be used in a woman where pregnancy cannot be ruled out or the woman is not using an effective contraceptive method. It should be used in a prudent way because of the risk of severe burn. Electrodessication, Lesion Excision by Electrosurgical Procedure (LEEP), laser or surgery should be reserved for large or recalcitrant lesions.

Biopsy specimens should be obtained from all suspicious lesions. Human Papilloma Virus testing may help triage of patients for follow-up guidance.

Women living with HIV are to be checked for CIN.

## HIV/AIDS

The number of women infected with HIV is slowly increasing in Canada. This infection is correlated with poverty in urban areas but we are seeing more women other than those in traditional "at-risk groups". Less women are offered anti-retroviral therapy or the opportunity to participate in trials of therapy.

HIV testing with pre and post test counselling has to be increased by obstetrical and gynaecological care-givers. Safe sex counselling has to focus on adolescent females who represent the fastest growing group of HIV infected women. Drug counselling has to be improved since drug use is the behaviour that represents the most rapidly increasing risk factor. Screening for and adequately treating STDs is very important in women because it prevents both acquisition and transmission of HIV. Zidovudine (AZT) therapy should be offered to women during pregnancy to lessen the risk of transmission of the virus to the fetus.

For a more complete discussion, see the SOGC Practice Guidelines for obstetrical and gynaecological care of women living with HIV, the Canadian Medical Association Guidelines for counselling and testing for HIV and the Canadian College of Family Physicians' comprehensive guidelines for the persons infected by HIV Module 1 (adults and adolescents) are available free from the National AIDS Clearinghouse (613-725-3769). Module 2 (newborns and infants) will be released in 1995.

## HEPATITIS B VIRUS (HBV) INFECTION

Hepatitis B Virus infection is increasing in Canada despite the fact that, for 11 years, very good interchangeable vaccines have been available to prevent this illness. In Canada, approximately one percent of adults are chronic carriers and another five percent have already been infected. Serologic markers are easy to interpret but screening by obstetrical and gynaecological care-givers has not been popular. Recommendation for mandatory testing of all pregnant Canadian women and immunization of babies delivered to HBV infected mothers has been made but not and implemented widely although it is recognized that only 60 percent of mothers infected by HBV are found by classical screening of at risk persons. Pre and post contact prophylaxis with active and passive immunization against HBV has a very high benefit/cost ratio but implementation is painfully slow. Universal immunization of adolescents has been proposed by various health organizations in Canada and will soon take place in some provinces.

## GENITAL MYCOPLASMAS INFECTION

Mycoplasma hominis, Mycoplasma genitalium and Ureaplasma urealyticum have not been shown to be pathogens of primary importance in women's genital tracts. Routine culture for genital mycoplasmas is not indicated for either diagnostic or screening purposes. Genital mycoplasmas specimens can be taken by endometrial biopsy or laparoscopy for the diagnosis of endometritis or PID.

## SYPHILIS

Infectious syphilis (primary, secondary and early latent) is not a very frequent STD in the general population. However, it is more common in some core-groups that share risk factors such as drug use or who exchange sex for drugs or money. Screening for asymptomatic infection is still important during general STD screening especially in pregnant women. Therapy of choice for all these stages is with benzathine penicillin G 2.4 million U IM in a single dose. Alternatives are doxycycline 100 mg orally BID, or for pregnant women erythromycin 500 mg QID for 14 days. Treatment of partners and notification to health authorities are important but often neglected parts of STD treatment.

## GENITAL HERPES INFECTION

Genital Herpes Infection is one of the most common STDs and is present in 25 percent of Canadians of reproductive age. Genital herpes infections occur more frequently as a result of a contact with an infected person who is unaware that the virus is being shed.

The primary attack in a seronegative individual occurs from two to 21 days following contact, and if symptomatic may be associated with vesiculo-ulcerative lesions, painful inguinal lymphadenopathy, urinary symptoms, a flu-like illness, and occasionally meningeal signs and symptoms. However, the first attack may pass unnoticed especially in persons with a prior infection of the mouth with Herpes Simplex Virus I. The first clinically apparent attack in an already seropositive person is usually less severe and systemic symptoms are not common.

There is no standard pattern of recurrence and rates vary, as do symptoms. Recurrence may be caused by reactivation of a latent infection and follow a sensory nerve distribution and is generally limited to external genitalia. It may occur anywhere in the related dermatome but usually always at the same site.

Neonatal herpes deserves special mention. The fetus is at greatest risk during parturition but intrauterine infection can occur at any time. Herpes Simplex Virus does not cause congenital malformations but may be associated with severe illness and permanent damage to the central nervous system or to the

development. Neonates of mothers having the primary attack are most at risk. Recurrent herpes simplex virus rarely leads to intrauterine infection. Once infected, the illness can present shortly after birth or be delayed four to six weeks. Presentations include: generalized systemic infection with liver, central nervous system, skin or other organ involvement, an isolated central nervous system illness or localized skin, conjunctival or oral disease. Postnatal transmission to the infant can occur but is rare.

A diagnosis of herpes is made from the history and physical findings followed if necessary by culture verification. Serology has little part to play in diagnosing this condition except where it is important to differentiate between primary and secondary infection or susceptibility of a man or female partner with genital HSV prior to pregnancy. Strain typing is generally not useful except in some cases of sexual abuse.

As with other sexually transmitted diseases, once a diagnosis of HSV is made, screening for other STDs should be undertaken.

The management of genital herpes is first to inform the patient that they have a sexually transmissible illness and that they should avoid skin to skin contact from the prodrome of the illness until the ulcers have healed. Patients should also adhere to safer sexual practices at other times since asymptomatic shedding is possible. They should also be given support for the emotional stress that this illness carries. Self help groups can help patients to cope. Women with herpes genitalis who are contemplating child-bearing must be made aware of the risks to the neonate and the need for Caesarean birth if active lesions are present at the time of labour, and if the membranes have been ruptured for less than six hours. Patients should be informed that although symptomatic attacks are treatable and preventable, HSV infection is not curable.

Medical treatment should be tailored to the clinical situation. The first symptomatic attack may require hospitalization for treatment, which includes general support, pain relief and Acyclovir. Generally oral acyclovir (Zovirax) 200 mg five times per day for seven to ten days is preferred over IV Acyclovir 5 mg/kilo t.i.d. Special cases such as immuno-suppressed children or adults may require higher doses or prolonged treatment. For those individuals having more than six recurrences annually chronic daily suppressive treatment with 400 mg of Acyclovir twice a day should be given. Episodic treatment can also be given to patients with six or less episodes a year: Acyclovir 200 mg five times/day for five days at the onset of prodrome. Edoxudine cream can be used in women who are intolerant to Acyclovir or prefer topical therapy. For prevention of unwanted outbreak, a prophylactic daily prior to special occasions may reduce the risk of recurrent disease during certain situations (during holidays, for example) and exposure to known trigger factors. Acyclovir may be used during pregnancy if the

clinical situation warrants.

## PITFALLS IN DIAGNOSIS AND MANAGEMENT OF STDs

Unsuccessful therapy can be caused by either a wrong diagnosis, ineffective therapy, poor patient compliance or reinfection by an untreated sexual partner.

## CONCLUSION

Readers are cautioned that therapies and clinical recommendations in the field of sexually transmitted diseases are constantly evolving. It does not replace the discretion and judgment of individual physicians in the care of persons with STDs.

BIBLIOGRAPHY

1. Canadian Guidelines for the Prevention, Diagnosis, Management and Treatment of STDs in Neonates, Children, Adolescents and Adults, 1992 (can be ordered from Canada Communication Group either in English or French for $19.95 + $3.50 shipping and handling fees + GST. For information call 819-956-4802.

2. Les maladies transmissibles sexuellement, Turgeon F, Steben M, 420 pages, Les Presses de l'Université de Montreal, 1994. This book is available at $43 (plus handling fees and GST). For information, call (514) 449-7886.

Supported by an educational grant from Pfizer

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Reprints and copies can be ordered by writing to Dr. Andre Lalonde, SOGC's Executive Vice President, at the following address: 774 Echo Drive, Ottawa, Ontario, K1S 5N8.