GAUTENG STI NEWS

April 2007

NHLS

LEVELS OF CIPROFLOXACIN RESISTANT GONOCOCCI ESCALATE IN JOHANNESBURG

NICD

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Quinolones, for example ciprofloxacin and ofloxacin, were recommended for the primary treatment of gonorrhoea from the late 1980s onwards, due to increasing gonococcal resistance to penicillin, spectinomycin and tetracyclines.

Decreased susceptibility and resistance to quinolones have been worsening worldwide, with the result that many countries have been forced to abandon this group of antimicrobial agents for the treatment of gonorrhoea. Quinolone resistant gonococci (QRNG) are those determined by laboratory testing to have a ciprofloxacin minimum inhibitory concentration (MIC) of greater or equal to 1 mg/L.

The World Health Organisation (WHO) recommends a change in first-line therapy for gonorrhoea if less than 95% of patients can be reliably cured with the first-line antimicrobial agent.

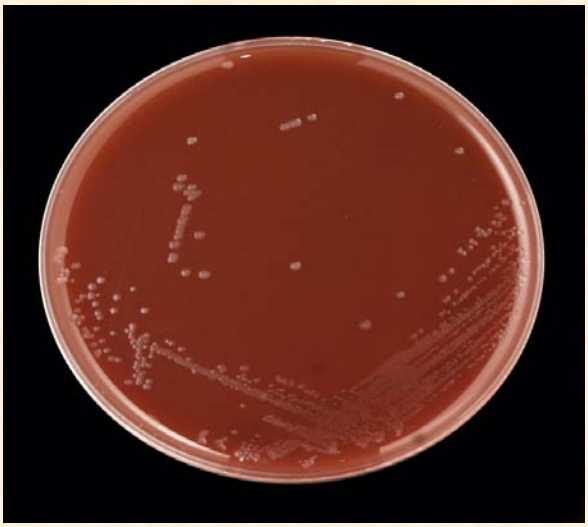


Figure 1: Laboratory culture of *Neisseria gonorrhoeae*, the bacterium responsible for gonorrhoea

ASSOCIATION BETWEEN THE 'MIC' AND CLINICAL FAILURE

Some countries initially used a 250mg ciprofloxacin single dose to treat gonorrhoea. Failure of such a dose to treat gonorrhoea was first reported in London in 1990. A single ciprofloxacin dose of 500mg is now recommended for the treatment of susceptible isolates, although resistance to such therapy has now been widely reported. The first gonococcal strains failing therapy with 250mg ciprofloxacin had MICs in the range of 0.06 mg/L to 0.25 mg/L. Post-treatment isolates from gonorrhoea failing to respond to 500mg ciprofloxacin typically have MICs ≥ 1mg/L. These strains with an MIC of ≥ 1mg/L are known as QRNG.

Key points on ciprofloxacin resistance

- **Association Between MIC & Clinical Failure**
- **Rising Resistance In South Africa**
- **Mechanism of Quinolone Action and Resistance**
- **Management of Resistant Gonorrhoea**

CIPROFLOXACIN RESISTANCE IN SOUTH AFRICA – HOW BIG IS THE PROBLEM?

A high level of ciprofloxacin resistant gonorrhoea in South Africa (22%) was first reported among isolates tested in Durban in 2003 by Moodley *et al.* (Int. J. Antimicrobial Agents 2004;24:192-193).

A national survey undertaken in 2004 as part of South Africa's newly-established National STI Surveillance Programme, and co-ordinated by the STI Reference Centre, demonstrated marked variation in ciprofloxacin resistance (Figure 2): 24% in Durban, 11% in Johannesburg, 10% in Umtata, 8% in Pietermaritzburg, 7% in Cape Town and 0% in Pretoria.

These data were reported at the 1st Joint Congress of The Federation of Infectious Diseases Societies in Southern Africa (FIDSSA) in July 2005.

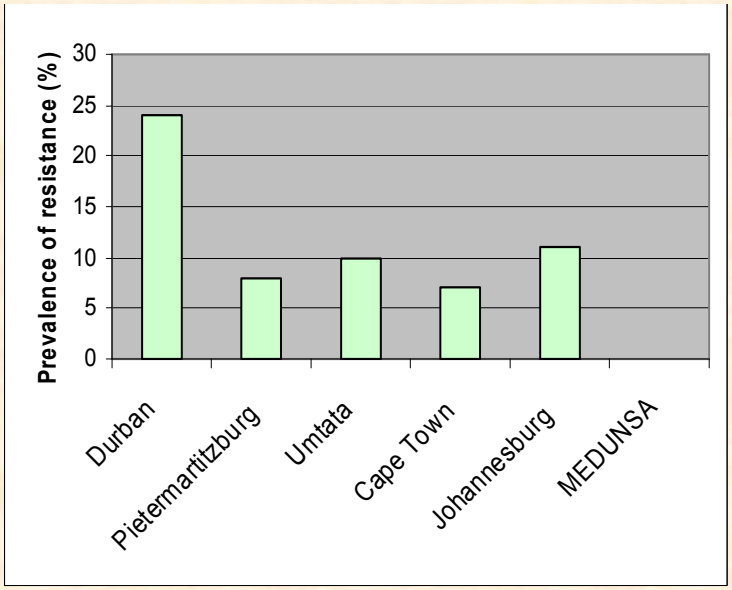


Figure 2: Results of the 2004 National Surveillance Survey of Gonococcal Ciprofloxacin Resistance

Ciprofloxacin resistance data for 2005 from Durban and Johannesburg were also presented at the same meeting. Both cities observing marked increases in resistance levels (Durban 42% resistance, Johannesburg 16% resistance). Detection of QRNG in Pretoria at a prevalence of 7% in a 2005 survey was also presented at the conference by Professor Anwar Hoosen's group at MEDUNSA.

ESCALATING CIPROFLOXACIN RESISTANCE IN JOHANNESBURG

The STI Reference Centre has been monitoring the level of ciprofloxacin resistance in gonococci obtained by urethral culture from men with MUS attending Esselen Street clinic in Central Johannesburg over the period 2004-2006. Over this three year period, the prevalence of QRNG rose from 11% to 29% (Figure 3). The STI Reference Centre is currently mid-way through conducting a gonococcal resistance survey at Alexandra Health Centre. To date, 31(40%) of 78 gonococcal isolates are resistant to ciprofloxacin by laboratory testing (Figure 3).

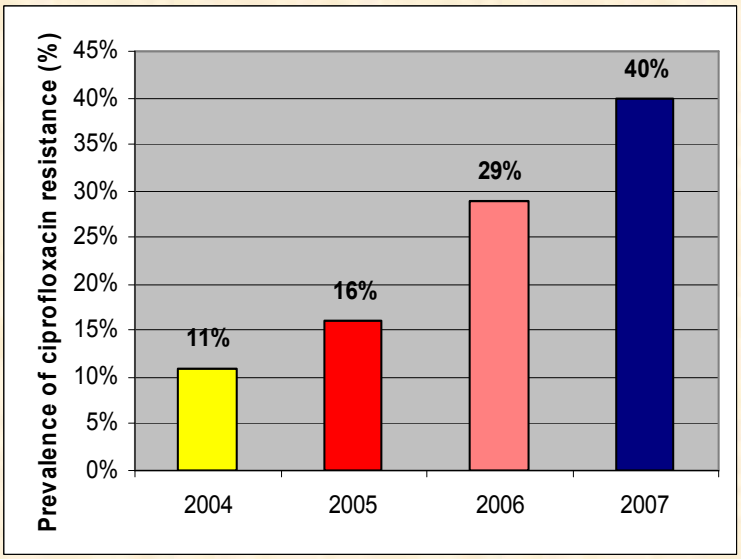


Figure 3: Escalating resistance to ciprofloxacin in Johannesburg

It is quite clear that there is now an urgent need to change first line therapy for presumptive gonococcal infection in the syndromic management protocols in use in primary health care facilities, i.e. away from ciprofloxacin to another agent.

HOW TO MANAGE CIPROFLOXACIN RESISTANT GONORRHOEA

Clinicians should be alert to the rising levels of ciprofloxacin resistance in Gauteng and consider this as a possibility in all patients not improving on current first-line syndromic management therapy for STIs. Many of the QRNG isolated in South Africa also exhibit high level resistance to tetracyclines, so the co-administration of doxycycline to manage patients with male urethritis syndrome, vaginal discharge and lower abdominal pain syndrome (women) should not be relied upon to treat QRNG. In particular, patients from (or with sexual partners in) KwaZulu-Natal, especially Durban where almost half of the gonorrhoea cases are resistant to ciprofloxacin, should be closely monitored as they are at highest risk of acquiring a QRNG strain. If in doubt, a urethral or endocervical swab could be sent to a laboratory capable of growing *N. gonorrhoeae* and antimicrobial susceptibility testing performed to guide therapy in case of treatment failure.
Alternatively, it may be better to treat the patient immediately as a case of ciprofloxacin resistant gonorrhoea with I.M. Ceftriaxone. The need for effective contact tracing of patients with QRNG cannot be over-emphasised.

Gonococci are still susceptible to cephalosporins and, to date, no confirmed resistant strains have been reported in the world. Patients with QRNG can be reliably treated with Ceftriaxone 250mg as a single intramuscular dose. Spectinomycin, if obtainable, still has activity against gonococci although this should be reserved for special situations, e.g. severe penicillin allergy. When spectomycin has been used in the past to treat gonorrhoea, resistance has occurred quite quickly, limiting its usefulness in the longer term. It is likely that gonococcal infections will need combination therapy treatment in the future once resistance to cephalosporins develops as there are no other options at present for management.

Have your say?

-Are there any STI-related topics you want us to discuss in future editorial of the STI news?

-We would like to publish some of your questions about STIs…….why not contact us?

Write in, phone or email Stephina Tshelane and you may have your question published.

National Sexual Health Week 2007

Lets Stop STIs and Keep the Promise

The Sexually Transmitted Infections (STI) Reference Centre, in partnership with City of Johannesburg Region 7, recently embarked on a special campaign in Alexandra Township to commemorate the National Sexual Health Week (11-17 February 2007). The theme of the campaign was ***"Let's stop STI's and keep the promise,".*** The township's local non-govermental (NGOs) and community based organisations (CBOs) took part by mobilising the community and creating STI's/HIV awareness campaigns.

The main objective of the campaign was to empower participants with knowledge about STIs by promoting health awareness that would result in improved sexual health within the community. Participants conducted a door to door campaign in which they targeted the township's "hot spots" for example taverns and hostels. Meanwhile, invitations were also distributed amongst the community and local schools to attend the main Valentine's event on 14th February at the Altrek Stadium. About 500 people including learners, NGOs and general community members attended this event, the key message was ***"Love me and protect me from STI's and HIV by abstinence and condom use"***. Different messages on STI were presented by STIRC staff, on a number of topics including genital discharges, genital warts, ulcers and partner notification. Community members were alerted on the link between STIs and HIV.

Attendees at the Main Valentines Event

During the campaign, a mobile clinic was set-up exclusively for volunteering men who wanted to have STI screen. Other health activities included the conducting of HIV rapid screening services. Cultural dances were also part of entertainment and talented local youth delivered both poems and songs on STIs/HIV.

RESEARCH ACTIVITIES AT THE STI REFERENCE CENTRE

HIV VCT and STI Screening Studies in Carletonville, South Africa

Between February and September 2006, the STI Reference Centre undertook two USAID-funded studies assessing the acceptability of HIV voluntary counselling and testing (VCT) and STI screening in both women at high risk (WAHR) and men living in the Carletonville area. The HIV VCT counselling was provided by trained counsellors working in tents placed adjacent to the mobile clinic vans (Figures 1 and 2). The STI Reference Centre employed the National Health Laboratory Service's first VCT counsellors for this project.

Figure 1: Mothusimpilo project mobile clinic for STI screening

The STI Reference Centre teamed up with a local NGO, the Mothusimpilo Project, to perform this research and benefited from the close working relationship built up over a number of years between the WAHR and the mobile van nurses. Men residing in the local communities served by the Mothusimpilo Project had repeatedly asked for a men's service.

At the end of 8 months, utilising three mobile vans for four days a week, a total of 1,361 WAHR participated in the study; 1,285 (94%) underwent screening for STIs and 1,137 (84%) took an HIV test. Of the 1,137 accepting VCT, 663 (58%) tested HIV antibody positive. In a similar manner, a smaller three month project using all male staff and just one mobile van for 4 days a week managed to enrol 309 men, of whom 303 (98%) agreed to STI screening and 262 (85%) agreed to take an HIV test (28% had HIV antibodies detected).

Figure 2: Mock demonstration of HIV VCT being performed in tents erected next to the mobile clinics

Those participants that were HIV sero-positive had same day blood tests performed for subsequent CD4 count and HIV viral load and they were referred to local ARV/ wellness sites with their results.

Evaluation of HIV and syphilis link in antenatal care services (ANC) in public facilities in Northern Cape and Gauteng provinces.

The STI Reference centre`s latest study is being undertaken in partnership with the Division of STD Prevention at the Centers for Disease Control and Prevention (CDC) Atlanta, USA. The study aims to evaluate the extent to which maternal syphilis screening and HIV prevention of mother to child transmission (PMTCT) screening programmes are currently integrated in public facilities in Gauteng and Northern Cape provinces.

Ensuring that pregnant women are informed of services provided at antenatal care will assist in ensuring that the proportion of infants infected with HIV reduce by 50% in 2010, a target set to the Joint United Nations Programme on HIV/AIDS.

Most women are not aware of their HIV status prior to pregnancy. Stigma in different societies and the weaker role of women in families contribute to resistance to HIV testing that leads to prevention of mother to child transmission. Interventions to ensure a complete package of effective prevention of HIV from mother to child need to be identified. These include among others, antiretroviral drugs, safer delivery practices, HIV VCT and support for infant feeding.

Syphilis in pregnancy causes stillbirth, spontaneous abortion, preterm delivery and other adverse pregnancy outcomes in up to 50% of cases. Preliminary data from Malawi suggest that HIV mother to child transmission (MTCT) is higher among women co-infected with syphilis than women without syphilis, even in the presence of effective ARV prophylaxis for neonates. These data highlight the potential HIV prevention benefits that syphilis screening could provide to HIV positive women receiving ANC services in South Africa.

Left to Right: Dr Lesley Brooks (CDC Experience Fellow), Sr. Violet Chiloane (Research Nurse), Mrs Veerle Dermaux (Data Co-ordinator) and Dr Thu-Ha Dinh (CDC Principal Investigator)

The South African national guideline recommends universal syphilis screening, with HIV VCT as part of routine care for ANC attendees. The 2005 South African national survey among ANC attendees reported a national syphilis (RPR positive) prevalence of 2.7% (provincial range of 1.1-8.5%). The same survey reported a national HIV prevalence among ANC attendees of 30.2% (provincial range 15.7-39.1%). Evidence shows that nevirapine can cost effectively reduce rates of maternal to child transmission (MTCT) of HIV by as much as 50%. Effective strategies to decrease MTCT of HIV are crucial in reducing the burden of HIV-infected children in our country.

Screening HIV-infected patients, without sexually transmitted infection (STI) related symptoms, for STIs at Helen Joseph Hospital, Johannesburg.

In South Africa there are no data on the current prevalence rates of asyptomatic STIs among HIV infected persons. According to the South Africa National Strategic 2000-2005 plan for HIV/AIDS and STI, STI treatment should be part of the overall care and support package for people infected with HIV. This study aims to determine the burden of asymptomatic STIs among patients living with HIV/ AIDS. The results may assist in the development of evidence-based guidelines for appropriate STI screening practice. This research will produce valuable data to inform health policy for optimal care of persons living with HIV and AIDS.

Asymptomatic STIs may also be important in enhancing HIV transmission through acquisition or onward transmission of HIV to a sexual partner(s).

Left to Right: Alex Vezi (STI/HIV Counsellor), Zanele Jele (Research Nurse) and Sipho Mbabela (STI/HIV Counsellor)

SURVEILLANCE ACTIVITIES IN GAUTENG

Gauteng Clinical STI Surveillance

The Gauteng surveillance program was initiated in 1997 by the STI Reference Centre in partnership with the Gauteng Department of Health. This was the first clinical STI surveillance undertaken in primary health care facilities in South Africa. Primary health care facilities were selected based on willingness to participate and the ability to attain the monthly average of 80 new STIs episodes. Initially 25 facilities were selected but only 21 managed to report continuously. The other four left the programme shortly after it began. Monthly reports are sent to the STI Reference Centre by the 21 sentinel facilities for capturing and generation of reports. Data are being aggregated by age, sex and region and relative STI syndrome prevalence are reported. Additional recorded STI indicators include partner slip issue and receipt, RPR screening and number of asymptomatic partners seen.

2000-2006 report

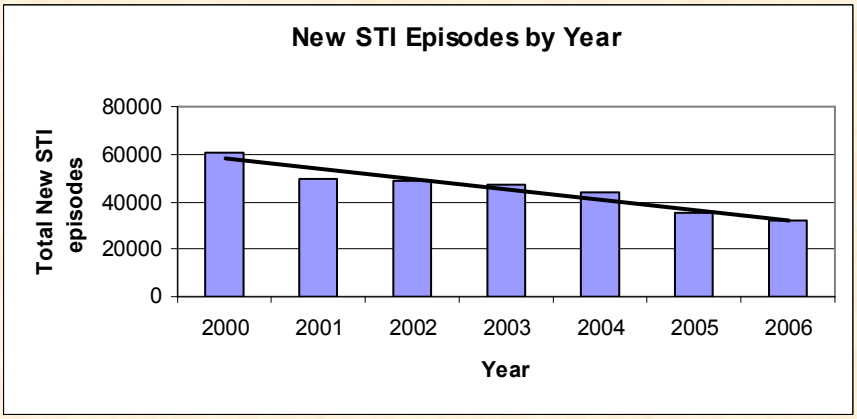
Overall, a total of 317,808 new STI episodes were recorded in the seven year period. New STIs syndromes declined by year in both males and females, and by 47% in 2006 compared to 2000. Of the recorded STI syndromes 54% were in females while 46% occurred in males.

Vaginal discharge was the most common syndrome in females with a relative prevalence of 68% (range 64-71%). Lower abdominal pain (LAP) and genital ulcer syndrome (GUS) followed with 13% and 10% respectively.

Between 2000-2006, male urethritis syndrome was the predominant syndrome in men with a relative prevalence of 60%. GUS and "other STIs" followed with relative prevalence of 19% and 8% respectively. Genital warts was recorded as the third most frequent syndrome in 2006. Although not proven, this shift may be attributed to increased immunosuppression among STI patients worldwide as a result of HIV infection.

Partner slips were issued to 212,013 STI patients in the sentinel facilities in the period. This proportion accounted for an overall 67% (yearly range of 52%-78%) partner slip issue rate. The partner slip issue rate increased significantly by 8% in 2006 compared to the year 2000 ($p<0.0001$). An overall partner receipt rate of 25% (range of 19%-30%) was recorded. Partner receipt rate declined significantly by 5% as compared to the year 2000 ($P<0.0001$). The overall recorded syphilis screening rate was 51% with a sero-positivity rate of 8%. Overall, 22,724 (43%) asymptomatic partners were recorded over the seven year period.

Number of STI syndrome episodes have significantly declined in the sentinel facilities.



To date, the Gauteng clinical STI surveillance program is still producing timely reports that are used for improving sexual health of Gauteng residents.

We are grateful to the following 21 sentinel sites for their continued support on the Gauteng STI surveillance programme:

Bedfordview Clinic, Bekkersdal East Clinic, Bophelong Clinic, Daveyton Main Clinic, Dresser Clinic, Edenvale Clinic, Esselen Street Clinic, Folang Local Authority Clinic, Khutsong Main Clinic, Laudium Local Authority Clinic, Mogale Clinic, Mpumelelo clinic, Randburg Clinic, Ratanda Clinic, Reiger Park Clinic, Rex Street Clinic, Orlando Local Authority Clinic, Sharpeville Clinic, Soshanguve Community Health Center, Zone 7 and Vosloorus Poly Clinic.

MESSAGE FROM THE GAUTENG PROVINCIAL DEPARTMENT OF HEALTH

FEMALE CONDOM … WHAT IS IT?

It is a female controlled barrier method. It provides protection from STIs including HIV and AIDS. It is also a contraceptive method to prevent unwanted pregnancy.

WHO CAN USE THE FEMALE CONDOM

- People who want to protect themselves and their partners from STIs including HIV / AIDS
- People who are concerned about unwanted pregnancies
- People whose partners cannot or will not use the male latex condom
- People who are allergic or sensitive to latex

WHY IS THE FEMALE CONDOM SO IMPORTANT

- It is finally available in public facilities
- It is safe
- If used correctly and consistently it can prevent you from having STIs including HIV and AIDS.

Reminder about condom reporting

All primary sites for distribution of male and female condoms are reminded to send reports every month. Condom reports must be sent to the Gauteng Provincial office and National office.

For more information contact:

Gauteng DoH	National DoH
Att: Pat Nevhutalu	Pascal Paile
Tel 011 355 3446	012 401 9600
Fax 011 355 3297/3577	012 401 9666

CANDLELIGHT MEMORIAL DAY
20-27 MAY 2007
"LEADING THE WAY TO A WORLD WITHOUT AIDS"

INTERNATIONAL CANDLE

LIGHT MEMORIAL DAY

Once again this important commemorative event will be celebrated around the world on 20 May 2007. This is the 24th Anniversary of Candlelight Memorial Day. On this day of remembrance, our thoughts and prayers go out to those infected with HIV and affected by AIDS.

We also honour and cherish the memory of our friends and relatives who have succumbed to AIDS-related illnesses.

Governments, global institutions, labour, business, people living with HIV and AIDS and civil society at large will be using this opportunity to emphasize messages aimed at the accelerated prevention of HIV infection.

Messages of positive prevention will seek to encourage healthy living and healthy lifestyles for all.

Communication messages

Let us unite as a country to:

- Halt HIV infection by practicing responsible and safer sex.
- Eradicate all forms of sexual violence, especially violence against women, as this fuels the epidemic.
- Provide increased care and support for all individuals and families whose lives have been compromised by HIV and AIDS.
- Become actively involved in the reduction of HIV and AIDS-related stigma and discrimination.
- Strengthen and sustain inter-sectoral partnerships to ensure a comprehensive, collaborative and coordinated response to HIV and AIDS.

AIDS Helpline
0800 012 322

On candle light memorial day you can show your support by lighting your candle of hope.

CONTACT THE EDITOR

Stephina Tshelane (Gauteng STI News Editor)

We hope that you have enjoyed reading this first issue of STI news. Please give us your feedback.

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