

Reports on Scientific Meetings

Social Hygiene Symposium 2007

Reported by AYK Chan 陳綺琪, NPY Chan 陳珮瑤, KM Lam 林嘉雯, WY Leung 梁偉耀, SY Wong 黃曉毅

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Partner notification: the Hong Kong scenario

Speaker: Dr. Kingsley HN Chan
Specialist in Dermatology & Venereology in Private Practice, Hong Kong

Partner notification (PN) of sexually transmitted diseases (STDs), also known as 'contact tracing' is the process by which partners of individuals with an infectious STD are notified, advised of their exposure and offered treatment. In the United States, the tracing of sexual partners is regarded as an important element of syphilis control. However, the public health efficacy of PN remains contentious, the compelling clinical (averting re-infection), ethical (duty to warn), and medicolegal issues associated with PN and the lack of PN data in Hong Kong have prompted the study of PN in Hong Kong.

A prospective study was conducted by the speaker to evaluate the effectiveness of the PN in patients newly diagnosed with i) syphilis, ii) gonorrhoea, iii) non-specific genital infection (NSGI) or non-gonococcal urethritis (NGU), iv) genital wart and v) genital herpes in Social Hygiene Service (SHS) in Hong Kong and to identify the key factors affecting its success.

During the study period, 7736 patients were newly diagnosed with a total of 7921 diagnoses. NSGI/NGU were the most frequently diagnosed STD (58.8%). 2489 PN notes were given to 2304 patients (29.8%) and 1072 partners attended SHCs after receiving PN notes. The proportion of outstanding contacts screened was 16.6% ($\text{Proportion of outstanding contacts screened} = \frac{\text{Partners returned}}{\text{Total no. of partners referred} + \text{Patients with no traceable partners}} \times 100\%$). This was significantly higher among females than males (31.6% vs. 9.6%, $p < 0.05$). The proportion of patient referral which resulted in verified contact attendance was 43.1% ($\text{Proportion of patient referral which resulted in verified contact attendance} = \frac{\text{Partners returned}}{\text{No. of PN notes given}}$). This proportion was significantly higher in the ≥ 40 than < 40 age group (49.6% vs. 42.2%, $p < 0.05$). The proportion of elicited partners who were newly diagnosed was the highest in NSGI/NGU patients (34%) ($\text{Proportion of elicited partners who were newly diagnosed} = \frac{\text{No. of newly diagnosed partners}}{\text{No. of partners elicited/investigated}}$). The brought-to-treatment index was the highest in gonorrhoea patients (16%). ($\text{Brought-to-treatment index} = \frac{\text{No. of newly diagnosed case in partners}}{\text{No. of cases interviewed for PN}}$).

The speaker concluded that PN in Hong Kong has been successful in finding new STD cases, with matched or other STDs. Even for patients who did not have any evidence of active STD, they would have been given the opportunity to learn more on safe sex practice during the process of partner management.

Learning points:

The speaker showed that the patient referral-based PN system adopted by SHS works well and is regarded as an important element of sexually transmitted disease control as this "breaks the chain of transmission". Some evidence-based data for the PN program in Hong Kong is also provided.

Asymptomatic urethritis: do all men attending Social Hygiene Clinic need to be screened?

Speaker: Dr. John HT Yu

Specialist in Dermatology & Venereology in Private Practice, Hong Kong

Urethral inflammation is the most common presenting condition among male patients attending Social Hygiene Clinic (SHC) in Hong Kong. In 2006, among 9572 new male sexually transmitted infections diagnosed in SHC 1413 (14.8%) and 4540 (47.4%) male patients were infected with gonorrhoea and non-gonococcal urethritis (NGU) respectively. In men, dysuria and urethral discharge are the characteristic symptoms of urethritis.

However, as urethritis can also be present without any obvious symptoms and signs, Dr. Yu's study sought to determine the prevalence of asymptomatic male patients with urethral infections attending a SHC and their microbiological profile.

Two-hundred and seventy-four consecutive male patients without any symptoms for urethral infections were recruited and a questionnaire was used to record the symptoms, sexual history and demographics. Further assessment including urethral smear for Gram stain, gonococcal culture, polymerase chain reaction (PCR) for *Chlamydia trachomatis* (CT), *Mycoplasma genitalium* (MG) and *Ureaplasma urealyticum* (UU) were performed.

The results showed that in 274 asymptomatic patients, 36 patients had NGU and two patients had positive gonococcal culture. Among the asymptomatic patient with NGU, there were 6 (16.6%), 10 (22.8%) and five (13.9%) patients with positive PCR for CT, UU, and MG respectively. On the other hand, there were 14 asymptomatic patients with positives PCR for CT but without evidence of NCU.

Learning points:

Urethral infections were identified in a significant number of asymptomatic male patients attending Social Hygiene Clinics, and routine screening for this group is warranted.

Trichomoniasis – an update

Speaker: Dr. William YM Tang

Senior Medical Officer, Social Hygiene Service, Department of Health, Hong Kong

Trichomonas vaginalis (TV) is a microaerophilic flagellated protozoan which bears no cyst stage. The trophozoite is pear-shaped and similar to that of a white cell in size. It was first discovered in the nineteenth century. It causes infection of the human lower urogenital tract and is considered as a sexually transmitted disease. TV in female can cause vulval or vaginal erythema, vaginal odour, vulval itchiness, frothy yellow or greenish vaginal discharge, dysuria, dyspareunia and colpitis macularis. It causes urethral discharge, pruritis and dysuria in male. However, up to 50% of women and even more in male with TV are asymptomatic. These form a reservoir of infection. Untreated patients may result in pelvic inflammatory disease, cystitis, infertility and prostatitis. To make the diagnosis of TV infection, Pap smear, microscopic examination of a wet mount, culture, nucleic acid amplification test like polymerase chain reaction (PCR) and recently FDA-cleared PCR are developed. Among all these, culture using Feinberg or Diamond culture media is the gold standard. It is sensitive and specific

but laboratory service may not be readily available and is expensive.

The treatment of choice of TV is nitroimidazole. In the U.S., metronidazole is used and tinidazole is on the other hand used in Europe. According to the CDC guidelines, patients suffer from TV infection are recommended to take a standard regimen of single dose of 2 gm metronidazole or tinidazole orally. Alternatively, metronidazole 500 mg twice daily for a week can be given orally. For those failed these treatment regimens, 2 gm of tinidazole or metronidazole can be given for 5 days if re-infection excluded.

TV detected in Pap smear is not uncommon. The incidental detection of TV in a Pap smear would mean that the test is a cost-effective one-stone-two-birds diagnostic armamentarium. However, the remaining question is the sensitivity of the Pap smear in diagnosing TV in our local population.

Learning points:

The signs and symptoms of *trichomonas vaginalis* are neither adequately sensitive nor specific as up to 50% of patients being asymptomatic. Different diagnostic tests are developed. The incidental detection of TV in a Pap smear is cost effective but the sensitivity is questionable in our locality.

Advances in laboratory methods for bacterial sexually transmitted diseases – application in local setting

Speaker: Dr. Janice YC Lo

Consultant Microbiologist, Public Health Laboratory Centre, Department of Health, Hong Kong

There are several roles of laboratory method in sexually transmitted infection including diagnosis, screening, patient management, contact tracing & epidemiological surveillance. Traditionally, the detection of Chlamydia and gonorrhoea infection are culture and antibody detection. In *Chlamydia*

trachomatis infection, the use of urine specimens to perform nucleic acid amplification represents the advanced laboratory method to improve the detection rate. Urine test is non-invasive. It is also sensitive and specific with sensitivity 98.7% and specificity 97.5% respectively. However, PCR test can be inhibited by haemoglobin and the presence of other organisms such as *Neisseria gonorrhoeae* in 3.4% of cases. It can be used in population screening programme to achieve an early detection, and to treat asymptomatic case as a preventive measure. For *Neisseria gonorrhoeae*, culture remains the mainstay of investigation to isolate bacterial clone which can provide information of antibiotic susceptibility and used as molecular typing. The use of urine specimens and nucleic acid detection methods will improve the sensitivity which can be available within 1 day. The sensitivity is nearly 100% and specificity is 98.4%. However, it should be confirmed with reliable supplementary assay because of the presence of concomitant commensal *Neisseria*. For the aspect of treatment, laboratory test such as antimicrobial susceptibility test can be used to guide the treatment. It is performed by using disk diffusion method to grade as susceptible, intermediate and resistant types. The resistance strain was changing over the decades. Before 1985, penicillin was adopted as empirical treatment for gonorrhoea until resistant strain emerged which was then replaced by ofloxacin till 1997 and nowadays ceftibuten is used as the empirical treatment. In general, if there are more than 5% resistant strains circulating, the empirical treatment is considered as unreliable. The molecular typing method called *Neisseria gonorrhoeae* multiantigen sequence typing (NG-MAST) is a multi-antigenic sequencing typing with recent pilot study showing 100% typeability. It can be used to detect whether it comes from the same source.

Learning points:

New laboratory techniques in detecting bacterial STI may help to strike for early diagnosis and better consistency in monitoring treatment response.