

**Highlights from the  
2011 International Society for Sexually Transmitted Diseases Research (ISSTD) Meeting**

*Neisseria gonorrhoeae* antimicrobial resistance, trichomonas, and home-based chlamydia testing were among the central topics at the 19<sup>th</sup> Conference of the International Society for Sexually Transmitted Diseases Research, held in Quebec City, Canada, July 10-13, 2011.

***Neisseria gonorrhoeae* Antibiotic Resistance**

One of the two presentations that received the most attention was a description of a ceftriaxone-resistant pharyngeal isolate from Japan, collected from a female commercial sex worker in 2009. This is the first ceftriaxone-resistant isolate that has been identified and is of great concern. Additional ceftriaxone-resistant *N. gonorrhoeae* strains have not been identified, but Japan lacks a surveillance system for gonococcal resistance, hampering detection. The other presentation that received attention was a description of cephalosporin susceptibility trends in the US-based GISP surveillance system, which demonstrated that during 2009 and 2010, minimum inhibitory concentrations (MICs) to cephalosporins increased, particularly in the West and among men who have sex with men. Increasing laboratory MICs suggest declining susceptibility. No treatment failures have been identified in the United States. Increasing MICs to cephalosporins were also reported from Canada, Europe, Kenya, and China. Investigators from Australia described a molecular assay to detect penicillinase-producing *N. gonorrhoeae* (PPNG), but a molecular assay for cephalosporin-resistance is unlikely to be available in the foreseeable future. Culture-based antibiotic resistance testing is still required. Presenters called for the development of new antibiotics, enhanced surveillance and international collaboration, coordinated and standardized laboratory testing approaches, and national and regional public health action plans.

**Trichomonas--The Beautiful Parasite and the Cause of the Neglected Sexually Transmitted Infection.**

Several presentations shed light on the molecular characteristics of *Trichomonas vaginalis*, its prevalence in women across the U.S. and the recent FDA clearance of a new molecular diagnostic test

Trichomonas infections, caused by the parasite *Trichomonas vaginalis* (TV), are highly prevalent sexually transmitted infections (STIs) worldwide, with estimates of 7-8 million infections annually in the United States and 180 million globally. Dr. Jane Carlton presented data about the physiology and biology of the “beautiful” parasite. She covered the genome project for which she sequenced the genome of the trichomonas parasite. She, as well as did Dr. Marcia Hobbs, in another outstanding presentation about trichomonas, reported the association of trichomonas with HIV and adverse birth outcomes. They both indicated that the infection is not reportable to public health officials and the organism is considered to be “neglected” by way of public health priority. Interestingly, Dr. Carlton has discovered that there are two different genotypes of trichomonas which may have public health significance. She also reported that the organism generates cytotoxic and lytic factors, as well

as proteinases. Trichomonas also has a virus which parasitizes the parasite. Trichomonas can phagocytize other vaginal organisms. The genome is very large- 160MB with lots of repeats.

Another presentation about trichomonas by authors Christine C. Ginocchio, Kimberle Chapin, Jennifer S. Smith, Janet Snook, Craig S. Hill, and Charlotte A. Gaydos demonstrated a very high prevalence of trichomonas in a nationwide prevalence study in 7,593 women. The women were aged 18 to 89 years, who were undergoing routine CT and NG screening at obstetrics/gynecology, emergency room, hospital in-patient, family practice, family planning, internal medicine, jail, and STD clinic populations in 21 states. This study used a new FDA cleared nucleic acid amplification test (NAAT) and demonstrated that the prevalence was 8.7%, while the prevalence of chlamydia and gonorrhea in these samples were 6.7%, and 1.7%, respectively. TV prevalence ranged from 7.5-8.6% in women age 18 to 39 yr, and increased to 9.8% in women age 40-44 yr. Highest observed TV prevalences were in women ages 45-49 yr (13.4%) and over 50 yr (13.0%). TV prevalence was 14.4% in the Southeast, 9.5% in the Southwest and Midwest, and 4.3% in the Northeast and ranged from 5.4% in Family Planning clinics to 22.3% in jails.

The final presentation on trichomonas reported the results of the FDA trial which cleared the new NAAT assay, ATV, (Gen-Probe, Inc., San Diego, CA), so that now we have a very accurate way to test for trichomonas in women. Authors were Jane Schwebke, Marcia Hobbs, Susan Taylor, Michael Catania, Barbara Weinbaum, Damon Getman, and Charlotte A. Gaydos. This prospective, multicenter clinical trial enrolled 1025 women attending US obstetrics and gynecology, adolescent, family planning, or sexually transmitted disease clinics. Of 933 subjects in the final analyses, 59.9% were symptomatic. ATV clinical sensitivities and specificities were 95.2% and 98.9% in urine, 100% and 99.0% in vaginal swabs, 100% and 99.4% in endocervical swabs, and 100% and 99.6%, in ThinPrep specimens, respectively. ATV performance was similar in asymptomatic and symptomatic patients, by age groups, and was consistent between sites. The ATV Assay also demonstrated superior performance compared to that of the reference tests (wet mount examination and TV culture) regardless of the specimen type analyzed. The authors concluded the use of highly accurate molecular tests such as ATV and easily obtained self-collected urine and vaginal swab samples represent an ideal combination for the large-scale screening of trichomonas.

### **The Use of Home-Based, Self-Obtained Vagina Swabs for Chlamydia Screening**

Dr. Fujie Xu presented data from a randomized trial in family planning clinics in three cities to determine whether the use of home-based, self-obtained vaginal swabs among women treated for Chlamydia infection can increase rescreening rates compared with clinic-based rescreening. Authors were Bradley Stoner, Stephanie Taylor, Leandro Mena, Lin Tian, John Papp, Kathleen Hutchins, David Martin, and Lauri Markowitz. Women treated for laboratory-confirmed Chlamydia infection were randomly assigned to the Home Group or Clinic Group. Those assigned to the Home Group were mailed a vaginal swab kit for home self-collection, and those assigned to the Clinic Group received clinic appointments for rescreening three months after treatment. Reminder calls were attempted for women in both the Home and Clinic Group. The authors found that use of home-based, self-obtained vaginal swabs resulted in significant increases in rescreening rates compared with clinic-based rescreening. A related article with data from both the randomized trial in family planning clinics and another conducted in STD clinics was recently published in *Obstetrics & Gynecology*, *Obstet Gynecol.* 2011 Aug;118(2 Pt 1):231-9.