Anti-HIV Vaginal Gel Appears Safe and Persistent

These phase I data were from a single-center study of an experimental microbicide.

BY KATE JOHNSON

MONTREAL — A single application of a vaginal microbicide gel resulted in persistently protective levels 24 hours later, with no significant side effects, reported Dr. Katherine Bunge of Magee-Womens Hospital in Pittsburgh.

These preliminary safety and persistence data justify daily dosing, she said at the annual meeting of the Infectious Diseases Society for Obstetrics and Gynecology.

The phase I, single-center trial of the nonnucleoside reverse transcription inhibitor UC-781 randomized 60 healthy women at a ratio of 2:1 to either treatment or placebo, explained Dr. Bunge, who had no disclosures to declare.

The women (mean age 26 years) also were randomized to product exposure durations of either 2, 4, or 8 hours. They received a physician-administered dose of vaginal gel and were then required to stay in the research facility for their assigned time period, after which specimens were collected by cervicovaginal lavage (CVL) and vaginal swabs. The subjects then returned 1 day, 1 week, and 1 month later for follow-up.

Urogenital irritation was assessed by pelvic exam and symptoms, microscopic genital changes were assessed by colposcopy, systemic safety was assessed by history and laboratory parameters, vaginal flora was quantified, and cervical cytokines were measured.

"These are fairly typical safety measures in any phase I trial of a microbicide, but what we attempted to do that hadn't really been looked at before was to figure out a way to determine the persistence of this vaginally applied drug that we didn't really expect to be absorbed," she said.

To that end, plasma drug levels were measured both immediately after the patients' timed exposure and then again a day later; drug levels were measured in CVL and vaginal swab specimens, which also were collected at those two time points, Dr. Bunge explained.

At 24 hours post exposure, two patients had detectable levels of UC-781 in their plasma, but in both cases the levels were considered below the limits of quantification, she said.

In contrast, "the most important and interesting data" showed persistence of the drug in the vagina, she said. Eight hours after treatment, 100% of the women had detectable drug levels in CVL specimens and 90% had detectable levels in vaginal swab specimens. At 24 hours post exposure, 93% had detectable levels after a second CVL, and 42% showed detectable levels after a second vaginal swab.

Dr. Bunge pointed out that even after 24 hours, the median concentration of UC-781 in CVL specimens was 4,965 pmol/mL.

"The inhibitory concentration of UC-781 is 2 pmol/mL, so in fact at 24 hours after washout, the median concentration of detectable drug in CVL samples was a thousand times the inhibitory concentration," she said.

Among the 197 adverse events (121 in the treatment group and 76 in the placebo group), 85% were classified as mild. There were four severe events but all were deemed not related or probably not related to treatment, said Dr. Bunge. ■

Young Women Often Can't Be Reached After STI Testing

BY KERRI WACHTER

BALTIMORE — Empiric treatment for sexually transmitted infections among adolescent girls presenting to a pediatric emergency department is high, but many patients are unreachable for follow-up and some remain unaware that they are infected, according to a 3-month baseline study.

In all, 120 young women aged 14-21 years who were seen at the Cincinnati Children's Hospital pediatric emergency department (PED) tested positive for *Chlamydia trachomatis*, *Neisseria gonorrhoeae,* or *Trichomonas vaginalis* between July 1 and Sept. 23, 2008, reported Dr. Jennifer Reed, an attending physician in the division of emergency medicine.

More than two-thirds of adolescents (69%) who tested positive for sexually transmitted infections (STIs) were treated empirically in the PED. The researchers were able to contact almost half of STI-positive patients (46%) within 7 days and were able to contact only 60% within 30 days, according to data presented as a poster at the annual meeting of the Pediatric Academic Societies.

"The most prevalent reasons for the unreachable patients included phones being disconnected, no answer, and full voice mailboxes," Dr. Reed said in an interview.

However, she noted that these data have not been analyzed yet.

The researchers tracked adolescent patients who tested positive for any STI. The usual clinical protocol involved contacting only those patients who tested positive for an STI but who were not treated empirically in the PED.

During the study period, a nurse practitioner attempted to contact all patients who tested positive for an STI, as soon as test results were available, regardless of documentation of PED treatment. Patients contacted at home were notified of their results and offered treatment if needed.

After three unsuccessful phone attempts to contact the patient, a registered letter was sent to the patient with the STI test results and a request to return to the PED. Those without treatment and no telephone contact or follow-up in the PED were classified as lost to follow-up.

The researchers recorded the date of contact and calculated the proportion of patients successfully contacted, the mean and median days to treatment/notification, and the proportions notified within 7 days and within 30 days.

For the 36 patients untreated at the initial PED visit but who tested positive and were successfully contacted, the median number of days to treatment was 8. In all, 9% of girls were lost to follow-up.

A total of 33 (28%) patients were empirically treated for STIs but remained unaware of their infections, putting their partners at risk and themselves at risk for reinfection from positive untreated partners.

A total of 11 (9%) patients were untreated and unaware of their infections, putting themselves at risk for complications from STIs, as well as for spreading infection.

This study is phase I of a quality improvement project designed to improve the STI reporting system in the PED.

The study was supported by a grant from the Cincinnati Hospital Research Foundation Outcomes award, as well as a K23 award from the National Institute of Allergy and Infectious Disease. ■

Some Teens Think Sex Is Very Risky, Others Not So Much

BY BETSY BATES

LOS ANGELES — Asian American/Pacific Islander high school students perceived sex to be riskier than did peers of other ethnicities and engaged in sex at much lower rates, in a study conducted in large public schools in Northern California.

The study of 411 adolescents (average age 16 years) uncovered widespread misconceptions across all racial/ethnic groups about the risks of vaginal and oral sex, but these misperceptions were greatest among Asian American/Pacific Islander students, Dr. Dzung X. Vo reported at the annual meeting of the Society for Adolescent Medicine.

Responses were analyzed from three groups: whites (44%), Hispanics (27%), and Asian American/Pacific Islanders (29%), said Dr. Vo of the division of adolescent medicine at the University of California, San Francisco. More than half—58%—were girls.

Students were asked to estimate the risk of various health consequences, as well as the potential damage to their social standing and relationships, of engaging in one act of vaginal intercourse or one act of oral sex. The researchers found that among students of all racial/ethnic groups, those who had actually engaged in sex perceived fewer risks and more potential benefits of having either vaginal or oral sex.

Hispanics were most likely to report having engaged in vaginal sex (44%), followed by whites (37%) and Asian American/Pacific Islanders (21%). Whites were most likely to have engaged in oral sex at 50%, followed by Hispanics (45%). Asian American/Pacific Islanders were far less likely than their peers to have engaged in oral sex, at 17%.

In 7 of 14 categories of potential risk from having vaginal sex, Asian Americans perceived a greater level of risk than did whites.

For example, whites thought there was a 56% chance of becoming pregnant after one episode of vaginal sex, while Asian American/Pacific Islanders calculated the risk at 65% and Hispanics, at 62%. (These differences were statistically significant for white students versus the other groups.)

Asian American/Pacific Islander students thought there was a 67% chance that vaginal sex might be pleasurable, compared with whites, who estimated a 76% chance and Hispanics, who estimated a 74% chance.

Asian American/Pacific Islander students equated as significantly higher than their peers the following potential risks of having oral sex: pregnancy, acquiring a sexually transmitted disease, getting HIV, harming one's relationship, getting in trouble with parents, and experiencing guilt.

Many students overestimated the actual known risks of sexual activity, Dr. Vo noted. For example, students believed one act of intercourse was far more likely to cause pregnancy than is truly the case. Even in the case of unprotected intercourse (which wasn't specified), the risk of pregnancy per act is probably less than 10%, even at a time of maximum risk in the ovulatory cycle. A significant number of students believed oral sex would put them at risk for pregnancy.

White students estimated the risk of becoming pregnant through oral sex at 7%, significantly lower than the 19% risk perceived by both Asian American/Pacific Islander students and Hispanic students. ■