for treating this pathogen after having validated through experimental study.
Disclosure No significant relationships.

O05 – FEMALE GENITAL INFECTIONS, IMMUNOLOGY AND MICROBIOME

Monday, July 15, 2019 4:15 PM – 5:45 PM

O05.1 LOWER GENITAL TRACT PREDICTORS OF ACUTE ENDOMETRITIS AMONG WOMEN WITH SIGNS AND SYMPTOMS OF PELVIC INFLAMMATORY DISEASE (PID)

[1]Sharon Hillier*, [1]Leslie Meyn, [2]Hilary Avolia, [2]Michele Austin, [2]Lisa Cosentino, [2]Melinda Petrina, [3]Toni Darville, [4]Harold Wiesenfeld. *[1]University of Pittsburgh and Magee-Womens Research Institute, Obstetrics, Gynecology and Reproductive Sciences, Pittsburgh, USA; [2]Magee-Womens Research Institute, Pittsburgh, USA; [3]University of North Carolina, Pediatrics, Chapel Hill, USA; [4]University of Pittsburgh, Obstetrics, Gynecology and Reproductive Sciences, Pittsburgh, USA*

10.1136/sextrans-2019-sti.128

Background PID is diagnosed clinically when women have cervical motion, uterine and/or adnexal tenderness, but many women meeting these clinical criteria have no histological evidence of endometritis on endometrial biopsy. The objective of this study was to evaluate vaginal microbiological predictors of acute endometritis among women with signs and symptoms of PID.
Methods The Anaerobes and Clearance of Endometritis (ACE) study enrolled women with symptomatic PID in a clinical trial (NCT01160640) comparing treatment regimens with or without metronidazole. This analysis included 169 women who had evaluable endometrial biopsies; acute endometritis was defined as $\geq$1 plasma cell per 120X field in the stroma plus $\geq$5 neutrophils per 400X field in the epithelium. *Chlamydia trachomatis* (CT) and *Neisseria gonorrhoeae* (GC) were detected by Aptima Combo 2 and vaginal swabs were evaluated by quantitative PCR for five species of *Lactobacillus (crispatus, vaginalis, jensenii, gasseri, iners*), three species of *Prevotella (bivia, timonensis, amnii*), *Atopobium vaginae, Gardnerella vaginalis* and *Megasphaera* phylotype I.
Results Only 31(18%) of 169 women with diagnosed PID had endometrial histology consistent with acute endometritis. By univariate analysis, lower genital tract CT, GC and BV-associated bacteria were each associated with increased endometritis, while *L. crispatus*, *L, jensenii* and *L, vaginalis* were negatively associated (P <0.05 for each). Based on the results of multivariable regression and factor analyses, a risk score for acute endometritis was developed combining CT (3 points), *G. vaginalis, A. vaginae* and *P. amnii* (1 point each if $<10^6$, 2 points each if $\geq 10^6$) and *L. crispatus* (-2 points if $<10^6$ and -4 points if $\geq 10^6$). A score of 5 or more detected 27 (87%) of 31 cases of endometritis and had a negative predictive value of 96%.
Conclusion Among women with symptomatic PID, a simple lower genital tract risk score including CT plus 4 vaginal bacteria was a predictor of acute endometritis.
Disclosure No significant relationships.

O05.2 CHARACTERIZING THE IMPACT OF PENILE-VAGINAL SEX ON HIV-SUSCEPTIBLE CD4+ T CELL SUBSETS IN THE FEMALE GENITAL TRACT

[1]Avid Mohammadi*, [2]Sareh Bagherichimeh, [2]Azadeh Fazel, [3]Elizabeth Tevlin, [3]Wangari Tharao, [4]Rupert Kaul. *[1]University of Toronto, Medicine, Torotno, Canada; [2]University of Toronto, Medicine, Toronto, Canada; [3]Women's Health in Women's Hands Community Health Center, Toronto, Canada; [4]University of Toronto, Toronto, Canada*

10.1136/sextrans-2019-sti.129

Background HIV in women is often acquired across the female genital tract mucosa, and a key parameter determining mucosal HIV susceptibility is the density of HIV-susceptible CD4+ T cells, particularly activated CD4+ T cells and Th17 cells. However, although most HIV transmission occurs during sex, the impact of sex itself on CD4+ T cell subsets is poorly described.
Methods STI-free heterosexual couples (N=40) were recruited. Blood, cervicovaginal secretions and a cervical cytobrush were collected from the female partner at baseline; couples then had penile-vaginal sex 48h later, with repeat sampling after 1–2 hr and 72 hr. Couples either had unprotected sex (n=31) or condom-protected sex (n=11); two couples participated twice, once with and once without a condom. Cytobrush-derived CD4+ T cell subsets were assessed by flow cytometry, and paired changes assessed by Wilcoxon signed-rank test.
Results The proportion of endocervical Th17 (CCR6+) cells transiently increased 1–2 hr after penile-vaginal sex (median increase = 4.95%; p=0.006), and returned to baseline by 3 days. Endocervical activated (HLA-DR+) CD4+ T cells also increased after 1–2 hr, but these increases persisted for >72 hr (1.63%; p= 0.007 and 4.75%; p< 0.0001, respectively). Importantly, increases in both types of HIV target cells were only apparent after condomless sex (5.0% for CCR6; P=0.015 and 2.11% for HLA-DR; p=0.006), with no increase seen after condom-protected sex (1.1% for CCR6; 0.7% for HLA-DR; both p>0.3). The expression of CCR5 and the frequency of other cervical CD4+ T cell subsets, including Th1 and Trm, were unchanged after sex.
Conclusion Penile-vaginal sex rapidly increased the proportion of cervical Th17 cells and activated CD4+ T cells, thought to be key endocervical CD4+ T cell HIV targets. Future work will assess the impact of sex on genital cytokine levels and the microbiota, and correlate cervical immune changes with semen parameters in the male partner.
Disclosure No significant relationships.

O05.3 THE COMBINED CONTRACEPTIVE VAGINAL RING INCREASES TH17-RELATED CYTOKINES IN THE GENITAL TRACT: A RANDOMIZED CROSSOVER TRIAL

[1]Iyaloo Konstantinus*, [2]Christina Balle, [2]Shameem Jaumdally, [2]Hoyam Gamieldien, [2]Ramla Tanko, [2]Rachel Esra, [2]Anna-Ursula Happel, [2]Shaun Barnabas, [3]Katherine Gill, [3]Tanya Pidwell, [4]Venessa Maseko, [5]Landon Myer, [2]Lindi Masson, [3]Linda-Gail Bekker, [2]Heather Jaspan, [2]Jo-Ann Passmore. *[1]University of Cape Town, Medical Virology, Observatory, South Africa; [2]University of Cape Town, Pathology, Observatory, South Africa; [3]University of Cape Town, Desmond Tutu HIV Centre, Observatory, South Africa; [4]National Institute for Communicable Diseases, Sandringham, South Africa; [5]University of Cape Town, School of Public Health, Observatory, South Africa*

10.1136/sextrans-2019-sti.130

Background Progestin only-injections (NET-EN and DMPA) have been reported to increase HIV target cells in the female