described partners having sole decisional authority. Several participants, particularly in Malawi, stated they would decide independently for fear of HIV stigma, accusations of infidelity, and relationship conflict.

Conclusion Women described a variety of approaches and considerations in consulting others about HIV biomedical research enrollment while pregnant. Congress attendees will understand the importance of developing practices responsive to participants' needs and preferences, including facilitating women's ability to engage others in the decision-making process if she desires and supporting individual decision-making.

Disclosure No significant relationships.

016 – HOST-PATHOGEN INTERACTIONS

Wednesday, July 17, 2019

1:45 PM – 3:15 PM

016.1 THERAPEUTIC EFFECT OF INDOLEAMINE 2,3-DIOXYGENASE (IDO) INHIBITOR IN THE MALE GENITAL INFLAMMATION

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Background Indoleamine 2,3-dioxygenase (IDO) catalyzes the first and rate-limiting step of tryptophan catabolism. IDO is induced in various tissues during systemic infection and plays a key role in immune response. Therapeutic effect of IDO inhibitor for systemic infection was already reported, but the effect for local infection was still unclear. We hypothesize that IDO play a central role for local immunological reaction in the male genital inflammation and IDO inhibitor contribute to innovative therapy for the male genital inflammation. To validate this hypothesis, we inhibited IDO using 1-methyltryptophan (1-MT) and investigated inflammatory changes in the male genital inflammation model.

Methods Twelve weeks old C57BL/6 male mice were used through the study. 1-MT 100µg was intraperitoneally administered and confirmed inhibitory effect of 1-MT. Lipopolysaccharide (LPS) 100µg was injected to the male genitalia (epididymis and prostate) and confirmed validity of modeling. Based on the results of preliminary examination, LPS was injected three hours after 1-MT administration. After modeling, male genitalia were removed in a time-dependent manner. Inflammatory changes were analyzed using comprehensive cytokines/chemokines assay for determining representative candidates. Biochemical and immunohistochemical changes were analyzed using representative candidates.

Results Histological analysis showed that invasion of inflammatory cells and destruction of ductal structure were observed in the male genital inflammation model of 1-MT(-) mice compared with that of 1-MT(+) mice. Comprehensive cytokines/chemokines assay showed that down-regulated expression of inflammatory promoting cytokines/chemokines (epididymitis: IL-1α, IL-6, CCL3, CXCL1. Prostatitis: IL-16, TREM-1,

CXCL10, CXCL12) were observed in male genital inflammation model of 1-MT(+) mice compared with that of 1-MT(-) mice. Same results were obtained from separate quantitative assay and immunofluorescent staining.

Conclusion IDO is involved in immunological reactions via cytokines/chemokines in the male genitalia. Inhibition of IDO may contribute to protection of the male genital inflammation. Therefore, IDO inhibitor might be a novel target therapy for the male genital inflammation.

Disclosure No significant relationships.

016.2 MAPPING REGIONS OF HOST ATTACHMENT IN THE *T. PALLIDUM* ADHESIN TP0751: FUNCTION-INFORMED VACCINE DESIGN

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Background *Treponema pallidum* ssp. *pallidum* (*T. pallidum*), the causative agent of syphilis, is a highly invasive pathogen that moves throughout the body via the bloodstream and invades every organ and tissue to cause the serious sequelae associated with sexually-transmitted and congenitally-acquired syphilis infections. Prevention of pathogen spread via the bloodstream is a critical requirement of a successful syphilis vaccine. The *T. pallidum* vaccine candidate Tp0751 is a host-binding adhesin that interacts with endothelial cells lining blood vessels. In this study we identify epitopes of Tp0751 that, when blocked with neutralizing monoclonal antibodies (mAbs), interrupt host endothelial cell interaction. This improved understanding will enhance antigen selection for syphilis vaccine development.

Methods Epitope localization of mAbs specific for Tp0751 was completed via enzyme-linked immunosorbent assays using several truncated versions of Tp0751. Following epitope localization, recombinant Tp0751 was incubated with individual mAbs and subsequently assayed for inhibition of Tp0751 adhesion to endothelial cells compared to that observed using control antibodies.

Results Epitope screening of Tp0751-specific mAbs identified functionally important regions of Tp0751 that mediate adherence to host cells. Inhibition studies revealed that all mAbs reactive against a defined C-terminal structural domain of Tp0751 impeded adherence of recombinant Tp0751 to endothelial cells. In contrast, N-terminal-reactive mAbs did not display this inhibition. These molecular studies allowed localization of neutralizing epitopes within a functionally important domain of the Tp0751 adhesin, which in turn assists with informed vaccine design.

Conclusion This study identified epitopes of Tp0751 that are important for *T. pallidum* host cell adhesion. Host immune targeting of these functional regions may facilitate antibody-dependent neutralization of treponemal dissemination, which is needed to establish protective immunity against *T. pallidum*. These results further our understanding of *T. pallidum* host cell adhesion and allow refinement of antigen selection for syphilis vaccine development.

Disclosure No significant relationships.