Background The bacterium that causes syphilis, *Treponema pallidum* subsp. *pallidum* (Tp), elicits cellular and humoral immune responses to numerous antigens during infection. We have identified three recombinant peptide antigens that, when used separately for immunization, show promise in the attenuation of chancure development or dissemination to distant tissues. Here, we report protection induced by a three-antigen cocktail emulsified in either of two custom adjuvants containing Natural or Synthetic TLR4 agonists + a natural Mincle agonist.

Methods Three purified recombinant peptides [TprK (aa37-273), Tp0751 (aa24-237), and Tpr Subfamily I (23-351)] were emulsified in either adjuvant and used to immunize groups of 8 rabbits. The immunized rabbits and 8 Unimmunized were challenged intradermally with 273), Tp0751 (aa24-237), and Tpr Subfamily I (23-351)

Background Effective syphilis control could be achieved by reducing its duration of infectiousness, for example, by identifying a higher proportion of cases at the primary stage. We hypothesised that men who have sex with men (MSM) who practice receptive anal intercourse (“bottoms”) are more likely to miss the primary stage and present with secondary syphilis, compared to MSM who practice exclusively insertive anal intercourse (“tops”).

Methods This was a retrospective analysis of MSM diagnosed with either primary or secondary syphilis at Melbourne Sexual Health Centre between 2008 and 2017. We analysed associations between the stage of syphilis (primary vs secondary) and sexual behaviour data collected by computer-assisted self-interview (CASI).

Results 559 MSM diagnosed with syphilis provided sufficient behavioural data for analysis, of whom 338 (60%) had primary syphilis and 221 (40%) had secondary syphilis. Among “tops”, 77% (95%CI 69–84) presented with primary syphilis and 23% (95%CI 16–31) presented with secondary syphilis. Whereas among “bottoms”, 54% (95%CI 49–59) presented with primary syphilis and 46% (95%CI 41–51) presented with secondary syphilis. Among those with primary syphilis, 247 (73%), 95%CI 68–78) had a penile chancre and 77 (23%, 95%CI 19–28) had an anal chancre. In multivariate logistic regression, “bottoms” were more likely to present with secondary syphilis than “tops” (aOR 3.90, p<0.001), after adjusting for age, HIV status, and condom use.

Conclusion “Bottoms” more often presented with secondary syphilis compared to “tops”, and most MSM who presented with primary syphilis had penile chancres rather than anal chancres. This suggests that MSM who have receptive anal intercourse are more likely to overlook anal syphilis chancres, perhaps because these are located inside their anal canal. These men may benefit from additional strategies to improve the recognition of anal chancres.

Disclosure No significant relationships.