Chapter 6.5

Concluding remarks Section 6

Section 6 has revealed additional host factors that can affect HIV-1 transmission (Figure 6.5). The density of LCs is significantly decreased and density of $CD4^+$ T cells significantly increased in female compared to male genital tissues. Furthermore, androgens decrease maturation of the epithelium, resulting in a thin layer, lacking LCs (Figure 6.5 a-c). Genital inflammation is a complicated process and we have investigated separate components. The inflammatory cytokine TNFα, TLR ligand Pam3CSK and infection by HSV alter LC function leading to increased HIV-1 transmission by different mechanisms (Figure 6.5d). Together with **Section 5,** our data indicate that a low density of LCs is protective under steady state conditions but detrimental during inflammatory conditions. Co-infections might further enhance susceptibility to HIV-1 by disruption of the epithelial barrier, influx of target cells or increased expression of co-receptors (Figure 6.5d).

Figure 6.5