The pig is increasingly used as an advanced animal model of the genital tract in women and knowledge on the genital immune system is therefore needed. In this study, evaluation of vaginal smears revealed that almost no neutrophils or other leukocytes were present in the vaginal mucosa of prepubertal minipigs (n = 10). In sexually mature minipigs (n = 10), evaluated through an estrous cycle, there was an increase in number of mucosal neutrophils and other leukocytes during estrus. The level of total IgA on the vaginal mucosa increased during diestrus. The level of total IgG showed no significant changes through the cycle. The vaginal IgA level in the prepubertal minipigs was similar to the low estrus level in sexually mature minipigs, and the IgG level in prepubertal was similar to the stable level in the sexually mature minipigs.