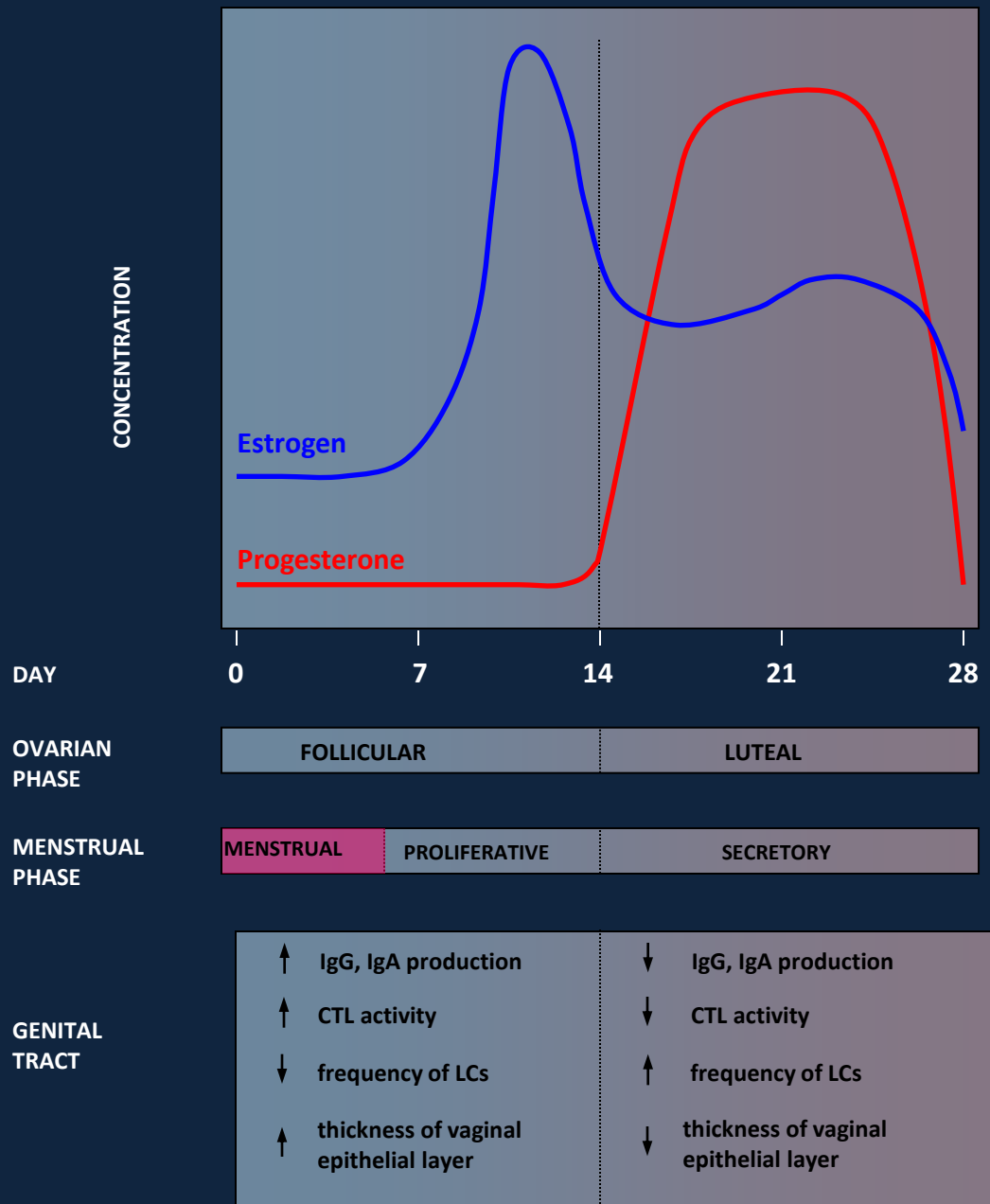


Hormonal Contraception: Immunological Impact



Menstrual cycle: regulation of the immune system

Possible Mechanisms Involved in the Increased Susceptibility to HIV-1- Infection by Hormonal Contraception

In Women:

- 1) Thinning of the vaginal epithelium
- 2) Increased density of Langerhans cells in vagina
- 3) Decreased:
 - a) humoral and cellular immune responses to HIV-1 and other antigens
 - b) total and antigen-specific antibody responses and density of Ig-producing cells
 - c) expression of IgG and IgA receptors on epithelial cells (*NK* cells?)
 - d) cytotoxic T cell activity
 - e) *NK* cell activity
- 4) Alterations of vaginal microbiota
- 5) Increased HIV-1 shedding

In Men: ?

- 5) Increased viral load in the female genital tract
- 6) Decreased levels of antibodies in female secretions

Future Studies in Women on Hormonal Contraception

- ❖ Viral shedding – cell-free/cell-associated virus
- ❖ Functions of epithelial cells (Ig receptor expression, thickness of the vaginal epithelium, HIV-1 receptors)
- ❖ Role of innate immune factors (SLPI, lactoferrin, cytokines, pH)
- ❖ Magnitude of Humoral Ig isotypes and cellular (CTL) immune responses to HIV and other mucosal antigens