

Females may be more susceptible to infection during ovulation

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A new research report in the *Journal of Leukocyte Biology* suggests that a woman's ovarian cycle plays an important role in her susceptibility to infection. Specifically, researchers from Spain and Austria found that women are most susceptible to infection, such as *Candida albicans* or other sexually transmitted diseases, during ovulation than at any other time during the reproductive cycle. This natural "dip" in immunity may be to allow spermatozoa to survive the threat of an immune response so it may fertilize an egg successfully.

"This could be an explanation why during ovulation females have more risk of being infected with sexual transmitted diseases like HIV or [HPV](#)," said Miguel Relloso, Ph.D., a researcher involved in the work from the Laboratorio de Inmunobiología Molecular at the Hospital Gregorio Marañón and Complutense University in Madrid, Spain.

Using mice, Relloso and colleagues found that the sex hormone, estradiol, increased susceptibility to systemic candidiasis (fungal infection). To monitor the effect of estradiol treatment on infection, researchers used in vivo and ex vivo fungal infection models. Ovariectomized mice were treated with estradiol and subsequently pulsed with *C. albicans*. Estradiol-treated mice were more susceptible to the fungal infection and had lower Th17 immune response. The researchers identified dendritic cells as a target cells of estradiol and showed that estradiol treated dendritic cells were inefficient at triggering the Th17 immune response to *C. albicans* antigens.

"The next time you hear a woman say that she's sick of men," said John Wherry, Ph.D., Deputy Editor of the [Journal of Leukocyte Biology](#), "you can add this to her list as another reason. This adaption which allows male sperm to survive long enough to fertilize an egg, may also open the door for other types of infection."

More information: Miguel Relloso, Laura Aragonese-Fenoll, Sandra Lasarte, Christelle Bourgeois, Gema Romera, Karl Kuchler, Angel L. Corbí, M. Angeles Muñoz-Fernández, César Nombela, José L. Rodríguez-Fernández, and Rosalia Diez-Orejas. Estradiol impairs the Th17 immune response against *Candida albicans*. *J Leukoc Biol.* January 2012 91:159-165; [doi:10.1189/jlb.1110645](https://doi.org/10.1189/jlb.1110645)

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