

Researchers close in on cause of gynecological disease

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For the first time, researchers have created a model that could help unlock what causes adenomyosis, a common gynecological disease that is a major contributor to women having to undergo hysterectomies.

In a two-step process, a team led by Michigan State University's Jae-Wook Jeong first identified a protein known as beta-catenin that may play a key role in the development of the [disease](#). When activated, beta-catenin causes changes in certain cells in a woman's uterus, leading to adenomyosis.

Then Jeong, an associate professor in the College of Human Medicine's Department of Obstetrics, Gynecology and Reproductive Biology, created a mouse model that may reveal useful targets for new treatments.

"Progress in the understanding what causes adenomyosis and finding potential drug treatments has been hampered by the lack of defined molecular mechanisms and animal models," Jeong said.

"These findings provide great insights into our understanding of the beta-catenin protein and will lead to the translation of animal models for the development of new therapeutic approaches."

The disease occurs when the inner lining of the uterus (endometrium) breaks through the muscle wall of the [uterus](#) (myometrium). Symptoms of the disease include menstrual bleeding, chronic pelvic pain and infertility. Most women with the disease require surgery, and 66 percent

of [hysterectomies](#) are associated with it.

"This research offers hope to the millions of women who have adenomyosis and holds promise that a cure, besides hysterectomy, is on the horizon," said Richard Leach, chairperson of the Department of Obstetrics, Gynecology and Reproductive Biology.

The research results were recently published in the *Journal of Pathology*. The work was supported by grants from the National Institutes of Health, American Cancer Society and World Class University Program at Seoul National University in South Korea.

Leach added the study highlights the groundbreaking research being done in collaboration with other internationally renowned research centers in women's health.

Provided by Michigan State University

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