

SOUTHWESTERN NEWS

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UT SOUTHWESTERN REPRODUCTIVE ENDOCRINOLOGY RESEARCHERS FIND A PIECE TO THE PUZZLE OF PAINFUL ENDOMETRIOSIS

DALLAS — March 5, 1997 — Researchers at UT Southwestern Medical Center at Dallas have discovered another clue about what causes endometriosis, a painful condition in which tissue similar to the inner lining of the uterus grows in areas outside that cavity.

In an article published in the early February issue of *The Journal of Clinical Endocrinology and Metabolism*, Dr. Serdar E. Bulun and his associates describe a newly discovered mechanism in the formation of endometriosis, which affects 50 million women in the United States.

Endometriosis is caused by a chain reaction in a woman's own body chemistry, leading to abnormal growths called tissue implants. These implants are manufactured from renegade tissue a woman's body normally produces during her monthly menstrual cycle. The runaway waste products, instead of making their way out of the body through the vaginal tract, may travel through the fallopian tubes into the abdominal cavity. There, in many normal women, they are removed by the body's local defense systems.

Bulun demonstrated that women with endometriosis are genetically predisposed due to an unusual enzyme expression in these tissues. In these women the implants that express the enzyme attach themselves to organs in the lower pelvis, especially the ovaries.

Since the abnormal implants are closely related to the endometrium, the blood-rich walls inside the uterus, they are biologically destined to try to reproduce the body's menstrual cycle themselves. Unfortunately, unlike the uterus, the partially functioning implants are without a disposal system. This causes the woman to be vulnerable to a toxic cocktail created by mixing area-based estrogen and the estrogen-synthesizing enzyme aromatase with a large group of prostaglandins produced in the area, said Bulun, assistant professor of obstetrics and gynecology.

He explained that at first the woman who has abnormal endometrial tissue in the

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pelvic area may not be aware of her condition. However, at some point she will begin to feel severe pain during menstruation. This pain may escalate so that it becomes constant or becomes both constant and more severe.

Endometriosis leads to frequent physician visits and surgeries, including fertility surgery to unblock scarred fallopian tubes.

Bulun and his colleagues in the Cecil H. and Ida Green Center for Reproductive Biology Sciences explained their findings in an article titled "Prostaglandin E₂ Stimulates Aromatase Expression in Endometriosis-Derived Stromal Cells."

The work was supported by an American Association of Obstetricians and Gynecologists Foundation Fellowship Award and a research grant from Zonagen Inc.

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