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### **Researchers find evidence of estrogen and progesterone hormone allergy**

AUSTIN, Texas—Texas researchers discovered that some women with menstrual cycle disorders like asthma and migraine headaches may be experiencing allergies to their own estrogen and progesterone hormones.

Russell Roby, M.D., director of the Roby Institute, Dr. Dick Richardson, professor at The University of Texas at Austin, and Dr. Aristo Vojdani, of Immunosciences Lab, Inc. in California, found that female patients who experienced health changes during their menstrual cycle had higher levels of IgE antibodies against progesterone and estrogen than control subjects. An increase in IgE antibodies is typically associated with allergic response.

The researchers published their findings in the March 27 issue of the *American Journal of Reproductive Immunology*.

“This is going to explain a lot of unexplained illnesses,” says Roby, alum of The University of Texas at Austin. “The primary disorders are premenstrual asthma, menstrual migraines, interstitial cystitis and fibromyalgia. We have no idea what causes these things, but they are definitely linked to hormonal cycles.”

The researchers studied blood samples from healthy women and women who experienced symptoms associated with their menstrual cycles, like asthma, migraines and joint pain. A significant number of patients in the latter group showed high levels of IgG, IgM and IgE antibodies against estrogen and progesterone.

Antibodies play a critical role in immune response and are produced by the body in response to antigens, molecules that the body recognizes as foreign.

Hormones haven’t been implicated in allergic response in the past, because it was thought that hormone molecules were too small to create an allergic response. The researchers found that estrogen and progesterone combine with other proteins and that the hormone part of the molecular complex is recognized as the antigen.

“We have shown that IgE antibodies, Type 1-immediate allergy antibodies, are produced against estrogen and progesterone,” says Roby. “This opens a whole new area of treatment possibilities.”

Roby says that in the process of the clinical study, it was found that symptoms could be diminished by very low concentrations of progesterone, which served both as a diagnostic feature and subsequently for symptomatic relief when needed.