■ **ELISA/ACT Biotechnologies LLC** ■

LRA by ELISA/ACT®
CLINICAL PEARLS UPDATE#12

Endometriosis

November 24, 2003

Dear Colleague:

Endometriosis and related syndromes (Endometritidities) affect 5-20 million Americans according to the Endometriosis Association. Successful comprehensive management using LRA by ELISA/ACT® tests and treatment plans are illustrated in the attached abstract reports. Attached is a clinical update newsletter that details how this advanced approach can be applied in your practice with beneficial results.

Functional, *ex vivo* lymphocyte response assays (LRA by ELISA/ACT) offer the most advanced tests available for determination of the individual's responses to the widest available range of substances tested by any lab in the world.

We are grateful for the opportunities to be of service to you and your patients.

Sincerely,

Russ Jaffe, MD, Ph.D., CCN, NACB
Lab Director

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Gleicher N. The role of humoral immunity in endometriosis. *Acta Obstet Gynecol Scand Suppl* 1994;159:15-17.

Center for Human Reproduction, Chicago, Illinois.

In many ways endometriosis represents yet another form of unexplained infertility. The disease is clearly associated with a decrease in fecundity and, while in advanced stages of the condition this infertility can be attributed to tubal factors, in mild stages of the disease the cause for the decrease in fertility is unknown. As in unexplained infertility, we have suggested that the impairment in fertility is due to autoantibody abnormalities. Endometriosis patients exhibit the same immunologic profile as previously described in women with unexplained infertility and repeated pregnancy loss. In fact, endometriosis is not only characterized by unexplained infertility but also by repeated and excessive pregnancy wastage. Its clinical presentation mimics that of an autoimmune disease, raising the question whether endometriosis is, in fact, an autoimmune disease. Endometriosis demonstrates immunologic abnormalities not only in respect to autoreactivity. Abnormalities in immune function have been widely reported in reference to almost any lymphocyte and macrophage function and, once again, the similarity to findings in patients with unexplained infertility is blatant. Abnormalities can be found in peripheral blood and especially prominently in peritoneal fluid. Treatment of immunologic abnormalities, and especially of autoantibody abnormalities, restores a level of fertility in endometriosis patients. It has also been demonstrated, in an animal model, that non-specific immune modulation may improve fertility.

On balance, what these studies show is that endometriosis is multifactorial. All of these components are included in the LRA by ELISA/ACT tests and treatment guide. Better outcomes are the results.

Ota H, Igarashi S, Hatazawa J, Tanaka T. Is adenomyosis (endometriosis) an immune disease? *Hum Reprod Update* 1998;4(4):360-367.

Department of Obstetrics and Gynecology, Akita University School of Medicine, Akita-city, Japan.

Adenomyosis is characterized as ectopic endometrial tissues within the myometrium in the uterus. The only difference between adenomyosis and endometriosis is the site of endometriotic tissues: inside or outside of the uterus. It is well known that endometriosis is frequently associated with various autoimmune phenomena. This short review covers various aspects of the immune cascade found in adenomyosis. In adenomyosis, a series of immune responses is activated, including changes in both cellular and humoral immunity, i.e. a strong expression of cell surface antigens or adhesion molecules, an increased number of macrophages or immune cells, and deposition of immunoglobulins and complement components. Furthermore, the disease exhibited high frequency of autoantibodies in peripheral blood. Thus, an immunological 'vicious circle' is formed in the endometrium in adenomyosis. **Endometrial cells seem to be under immunological stress, protecting themselves by exposing heat shock proteins. It is concluded that the endometrial environment in adenomyosis differs widely from that in normal fertile women.** These abnormal immune responses might be involved in poor reproductive performance in adenomyosis.

Note: We believe the comprehensive optional treatment guide included with LRA by ELISA/ACT tests, if requested, provides the best current therapy for sustained remissions in endometriosis and related adenomyosis syndromes.

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