Clinical evaluation of endometriosis and differential response to surgical therapy with and without application of Oxiplex/AP* adhesion barrier gel

Gere S. diZerega, M.D.,[a] *James Coad, M.D.,*[b] *and Jacques Donnez, M.D.*[c]

[a] Livingston Reproductive Biology Laboratories, Department of Obstetrics and Gynecology, Keck School of Medicine, University of Southern California, Los Angeles, California; [b] Department of Pathology, University of West Virginia School of Medicine, Morgantown, West Virginia; and [c] Department of Obstetrics and Gynecology, Cliniques Universitaires, Saint-Luc, Brussels, Belgium

Objective: To correlate parameters of endometriosis obtained during routine clinical evaluation with the subsequent formation of adhesions following surgical treatment by laparoscopy.
Design: Randomized, controlled, double-blind, clinical trial.
Setting: Tertiary referral centers for the treatment of endometriosis.
Patient(s): Thirty-seven patients (65 with adnexa) with stage I–III endometriosis; endometrioma-only patients were excluded.
Intervention: Laparoscopic surgical treatment of endometriosis, followed by randomization to Oxiplex/AP (FzioMed, Inc., San Luis Obispo, California) gel treatment (treated group) of adnexa, or surgery alone (control group); follow-up laparoscopy 6–10 weeks later.
Main Outcome Measure(s): Adnexal Americn Fertility Society score, correlated with color and location of endometriosis, as well as stage of disease determined by masked review of videotapes.
Result(s): Control patients with at least 50% red lesions had a greater increase in ipsilateral adnexal adhesion scores than patients with mostly black or white and/or clear lesions. Treated patients with red lesions had a greater decrease in adnexal adhesion scores than control patients. There was a correlation between baseline endometriosis stage and postoperative adhesion formation in control patients, but not treated patients.
Conclusion(s): Patients with red endometriotic lesions had greater increases in their adhesion scores than patients with only black, white, and/or clear lesions. Oxiplex/AP gel was effective in reducing adhesions, compared to surgery alone, in all groups. (Fertil Steril® 2007;87:485–9. ©2007 by American Society for Reproductive Medicine.)

Key Words: Adhesion prevention, Oxiplex/AP gel, endometriosis

Recent progress in the study and treatment of endometriosis has shown this disease to be heterogeneous in its clinical manifestations and response to therapy (1, 2). Peritoneal, ovarian, and rectovaginal endometriotic lesions clinically may behave as different entities (3). Further, the biology of endometriosis associated with pelvic pain may be different from that of endometriosis-associated infertility (1). Another variable in the evaluation of endometriosis is mapping red, black, and white lesions. The distribution of endometriosis on the surface of the peritoneum and of deeply infiltrating lesions raises questions regarding the clinical heterogeneity of the disease (4–7).

The diagnosis of endometriosis is traditionally based on laparoscopic visualization. Several visual parameters of endometriosis have been reported. In addition to the typical "powder-burn" bluish-black lesions, red, clear, and white lesions have been reported on the peritoneal and ovarian surfaces (8–10). The location and size of lesions, as well as associated adhesions, form the basis for endometriosis staging (11). The relative contributions of the various-colored lesions to clinical presentations or response to surgery have not been reported. The disease and its treatment recommendations are based on visual assessment of the lesions. Subsequent histological analysis after laparoscopic therapy seldom alters treatment plans (8, 10, 12, 13).

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*FzioMed, Inc., San Luis Obispo, California.
Gere S. diZerega, M.D., is a consultant to FzioMed, Inc.
Reprint requests: Gere S. diZerega, M.D., Livingston Reproductive Biology Laboratories, Department of Obstetrics and Gynecology, Keck School of Medicine, University of Southern California, 1321 North Mission Road, Los Angeles, California 90033 (FAX: 323-222-7038; E-mail: dizerega@usc.edu).