
Histologic characteristics of vaginal cuff tissue from patients with vaginal cuff dehiscence.

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Public Summary:

Scientific Abstract:

STUDY OBJECTIVE: To describe the histologic characteristics of vaginal tissue in patients with vaginal cuff dehiscence (VCD) after robotic hysterectomy and to compare this group with patients without dehiscence. **DESIGN:** Retrospective analysis (Canadian Task Force classification II-3). **SETTING:** Academic center. **PATIENTS:** Seven patients with VCD and 6 patients without VCD. **INTERVENTIONS:** Vaginal cuff tissue was obtained from all patients and was stained using hematoxylin-eosin and evaluated for acute and chronic inflammation markers including neutrophils, lymphocytes, and plasma cells. Immunohistochemical staining was performed and evaluated using the semiquantitative method for collagen types I and III, smooth muscle actin, and SM22alpha (myofibroblast) content. Grading was performed by 4 blinded investigators. The Mann-Whitney test was used to evaluate the 2 groups, and correlation coefficients for interobserver variability. **MEASUREMENTS AND MAIN RESULTS:** The VCD group, compared with the non-VCD group, demonstrated significantly greater numbers of neutrophils (1.71 vs 1.0; $p = .04$), lymphocytes (2.85 vs 1.33; $p = .002$), and plasma cells (2.2 vs 1.0; $p = .001$). There was no statistical difference between the groups in amounts of collagen I (1.71 vs 1.27; $p = .09$) and collagen III (1.66 vs 1.38; $p = .37$), smooth muscle actin (1.23 vs 1.33; $p = .65$), and SM22alpha (1.85 vs 1.27; $p = .09$). Interobserver variability was low ($\kappa = 0.86$; $p = .76$). **CONCLUSION:** Compared with the control group, patients with VCD demonstrated significantly higher levels of acute and chronic inflammatory cells. This finding suggests that a prolonged inflammatory phase may be delaying normal progression to reparation in patients with dehiscence.

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