EXPRESSION OF PERIOSTIN AND SYNDECAN-1 IN ENDOMETRIOSIS

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OBJECTIVE

Angiogenesis plays a pivotal role in endometriosis, and antiangiogenic therapies have been proposed as therapeutic approach. The objective of this study is to investigate the expression in endometriosis of two proteins involved in the angiogenic process, peristin and syndecan-1.

MATERIALS AND METHODS

Eutopic endometrium and ectopic endometriotic lesions (endometriotic cysts and rectovaginal nodules) were obtained from premenopausal women undergoing laparoscopy because of endometriosis. Criteria for exclusion from the study were: menstrual bleeding on the day of surgery, signs of pelvic inflammatory disease, use of hormonal therapies in the 3 months prior to surgery, use of intrauterine device in the 3 months prior to surgery, pregnancy or breastfeeding in the 6 months prior to surgery. All patients included in the study had histological diagnosis of endometriosis. The expression of peristin and syndecan-1 were evaluated by immunofluorescence techniques on cryostat sections of eutopic endometrium and ectopic endometriotic lesions. The expression of peristin was assessed by using the murine monoclonal antibody OC-20, a function-blocking anti-peristin antibody (1). The expression of syndecan-1 was assessed by using the human recombinant OC-46F2 antibody that is specific for the extracellular domain of syndecan-1 (2).

RESULTS

Ten patients with rASRM stage III-IV disease were included in the study. The mean (±SD) age of the study population was 32 (± 3.6) years; 4 patients had previous surgery for endometriosis but the deep nodules were not completely excised.

Peristin and syndecan-1 were highly expressed in the stroma of eutopic and ectopic endometrium of patients with endometriosis. Both OC-20 and OC-46F2 antibodies were able to recognize very well vascular structures, as shown by the colocalization with antibodies specific to several endothelial markers as CD31, CD34 and CD144 (VE-Cadherin) and pericic marks as SMA (smooth muscle actin).

CONCLUSIONS

Eutopic and ectopic endometrium of patients with endometriosis highly express peristin and syndecan-1. Previous studies showed that OC-20 and OC-46F2 antibodies are able to inhibit angiogenesis during tumor growth in pre-clinical in vivo models (1,2). These observations may contribute to the employment of novel antiangiogenesis biological drugs in endometriosis.

REFERENCES
