

Letter to the Editor

ERRP-29 AND ER STAINING IN UTERINE LIPOMA AND LIPOLEIOMYOMA

To the Editor:

Lipoma, lipoleiomyoma and the coexistence of these tumors localized to the uterus are rare. The peak incidence of these tumors occurs in the fifth and sixth decades and they are frequently associated with leiomyomas (1, 2). A 54-year-old woman with such tumors was presented in this report and in order to evaluate hormonal factors in the pathogenesis of lipoma and lipoleiomyoma the presence, severity and localization of estrogen receptor related protein-29 (ERRP-29) and estrogen receptor (ER) were investigated by the immunohistochemical method.

A 54-year-old female, postmenopausal patient suffering from vaginal hemorrhage and groin pain was admitted to the hospital. A gynecological examination revealed an enlarged uterus and total abdominal hysterectomy with bilateral salpingoophorectomy was performed on the patient after a preoperative diagnosis of leiomyoma.

On macroscopic examination, the uterus was found to measure $11 \times 10 \times 5$ cm. The myometrium contained six nodules, the biggest of which measured 8×6 cm (nodule A). On section, it was found that nodule A was yellow and of adipose appearance. The biggest of the other five nodules measured 3.5 cm in diameter (nodule B) and gross sectioning of these firm nodules was white. The tubes and ovaries were normal.

Paraffin sections were stained with hematoxylin-eosin, Masson trichrome and von Gieson. The microscopic examination of nodule A revealed mature fat cells composed of many small vessel sections and thin connective tissue septa. Nodule A was encapsulated. A few mixed smooth muscle cells and fat cells were observed on the periphery of the nodule. These smooth muscle cells were accepted as remnants of the normal myometrium. The final diagnosis was that nodule A was a lipoma.

Nodule B consisted of a mixture of hyalinized connective tissue, smooth muscle and adipose tissue. The nuclei of these adipose cells were larger than mature adipose cells and the nodule was accepted as a lipoleiomyoma. The other four nodules showed the typical histologic features of leiomyoma. The only other pathologic microscopic finding in the myometrium was endometriosis interna in an area close to the lipoma.

The immunostaining of ERRP-29 and ER was carried out by the Biotin Streptavidine Amplified using D5 and 1D5 monoclonal antibodies respectively (StrAvidGen[®], Biogenex). The presence and intensity of ERRP-29 and ER staining were subjectively evaluated as 0, +, ++ or +++, with + representing the weakest and +++ the most intense staining. In order to evaluate the ratio of ERRP-29 and ER staining of cells, 200 cells were counted. ERRP-29 and ER staining were negative in the adipose tissue and hyalinized connective tissue of the lipoma and lipoleiomyoma.

Ten and fifty percent of the cells were stained for ERRP-29 with a severity of ++ in the smooth muscle of the lipoleiomyoma and adjacent myometrium respectively. Eighteen and fifty-six percent of the cells were stained for ER with a severity of ++ in the smooth muscle of the lipoleiomyoma and adjacent myometrium respectively.

The number of previous studies evaluating steroid hormone receptors in pure lipoma and lipoleiomyoma is limited (3). Sienski et al. (3) reported that the levels of estrogen receptors (ER) and progesterone receptors were lower in lipoleiomyoma than in adjacent myometrial tissue assessed by the biochemical method, but they were unable to explain the reason for this difference, due to partial hyalinization or a lipomatous component. They also mentioned that the decreased content of steroid receptors may be responsible for the lipomatous neometaplasia in lipoleiomyoma.

Our study shows that ER content is lower in lipoleiomyoma than in adjacent myometrial tissue as found by Sienski et al. (3). ERRP-29 is a cytoplasmic ER-related protein and its presence in tumors generally correlates with ER status but its significance has not been clearly identified (4). To our knowledge, ERRP-29 in lipoma and lipoleiomyoma has not been studied previously. Our study shows that the decreased ERRP-29 staining is related to smooth muscle of lipoleiomyoma and that both ERRP-29 and ER staining are negative in the adipose and hyalinized connective tissue. This finding may suggest that hormonal alterations may play a role in the pathogenesis of lipoleiomyoma localized to the uterus.

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