

SPINDLE-CELL EPITHELIOMA: “MIXED TUMOR” OF THE VAGINA

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Spindle-cell epithelioma or “mixed tumor” of the vagina refers to a rare neoplasm composed of a proliferation of spindle cells admixed with discrete epithelial cell islands within. The first report of this condition in the English literature appeared in 1953,¹ followed by other case reports,²⁻⁴ and detailed study of 28 cases from Armed Forces Institute of Pathology (Washington, DC, USA).⁵ We report a case of spindle-cell epithelioma of the vagina encountered for the first time in our hospital. Awareness of the prevalence of this entity among pathologists would perhaps lead to the identification of more of such cases.

Case Report

A 28-year-old unmarried female complained of a mass protruding from the vagina. She had her last menstrual period one week prior to the excisional biopsy. The patient did not have any other complaints. At operation, the mass was seen to be arising from the hymen between the 4 and 8 o'clock position, and was excised without any problem and sent for histopathology.

Pathological findings revealed a grossly nodular and well-defined oval mass measuring 1.5x1.5x1 cm. Microscopic sections of the circumscribed tumor with apparent expansile margins (Figure 1) showed proliferation of ovoid to spindle-shaped stromal cells. Aggregates of small blood vessels were noted intermingled with nests of spindle cells (Figure 2). These spindle cells with poorly defined cell borders showed sparse, faintly granular cytoplasm (Figure 3). The nuclei were dark, and slightly vesicular with fine chromatin. Occasionally, the cells formed cords simulating epithelial structures in the form of tubules and papillae. No foci of necrosis in the tumor were seen. There was no significant nuclear pleomorphism. A mitotic rate of one mitotic figure per ten high power fields was identified. Spherules of eosinophilic material representing hyaline globules were seen in foci.

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FIGURE 1. Cellular tumor separated from the overlying squamous epithelium by a band of subepithelial stroma and chronic inflammation (H&E, 40x).

Surrounding stratified squamous epithelium (vagina lining) showed subepithelial, moderately heavy, mixed chronic inflammation. No squamous epithelium islands were detected in the tumor. Paraffin blocks were sent to the Armed Forces Institute of Pathology (Washington, DC, USA) for immunohistochemistry and histologic opinion. The tumor cells were stained diffusely and strongly positive for Kermix (a combination of AE 1, AE 3, and LP 34). Comparatively less intense and focal positivity was observed within the cells for smooth muscle actin. Based on light microscopic appearances along with immunoperoxidase staining pattern, a diagnosis of spindle-cell epithelioma, or “mixed tumor” of the vagina was made. Follow up at six months did not reveal any local recurrence or any evidence of dissemination.

Discussion

Spindle-cell epithelioma of the vagina is a rare entity which may occur at any age. It usually presents as a polypoidal mass located in or near the hymenal ring. They are easily shelled out as it was in our case. Grossly, it is a well circumscribed, non-encapsulated soft tissue mass

FIGURE 2. Well-circumscribed tumor with expansile margin. Variable supportive stroma with many capillaries noted within (Reticulin, 40x).

FIGURE 3. Dominant spindle-cell component without any significant atypia or mitotic activity. Spherules of hyaline globules representing condensation of stromal matrix (H&E, 160x).

without any direct connection to the vaginal epithelium, which is usually non-ulcerated. Microscopically, the tumor reveals an admixture of bland stromal cells and islands of mature squamous epithelial cells within. Rarely, one might see tubular as well as papillary structures and occasional foci of osseous or cartilaginous differentiation. Mitosis is quite infrequent in these tumors.

Branton and Tavassoli⁵ conclusively proved its epithelial nature as evident by intense positive staining with keratin antibody in 9 out of 10 tumors immuno-

histochemically. This is further supported by the demonstration of tonofilaments and desmosomes in the spindle cells in two cases studied ultrastructurally.⁵ The co-expression of smooth muscle actin along with cytokeratin in our case, perhaps points to myoepithelial and stromal, myofibroblastic-like cells origin.

Many theories have been given on the origin of these neoplasms, ranging from possible embryonic remnants being the source,³ to its origin from urogenital sinus.^{9,10} Because many of these neoplasms are located in or near the hymenal ring, an epithelial migration during vaginal development is possible.

The prognosis is generally good. To date, there has been no report of a metastasis in these tumors. Recurrence occurs when the tumor is incompletely excised.⁴

The term "spindle-cell epithelioma" of the vagina is favored over the designation "mixed tumor," as the myoepithelial cells do not exist either in the vagina or in vaginal glandular inclusions of either Mullerian or mesonephric origin. Thus spindle-cell epitheliomas are distinct neoplasms and should not be confused with "mixed tumors" occurring at other sites such as the breast,⁶ mediastinum,⁷ trachea,⁸ and vulva.² Being benign in behavior, surgical excision is an adequate form of treatment. A pathologic diagnosis of "spindle-cell epithelioma" of the vagina should always be kept in mind whenever a polypoid mass from the anterior portion of the vagina, in or near the hymenal ring is excised.

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