



Mesonephric remnants with epididymis-like morphology in a postmenopausal woman with endometrial carcinoma - A case report and review of the literature



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Introduction

Mesonephric remnants with epididymis-like features are rarely recognized in the female genital tract, with only isolated reports in the literature mostly in the context of exogenous hormonal manipulations.

Case presentation

A 56-year-old lady with good past health presented with postmenopausal bleeding. She did not have any history of hormone replacement therapy or exogenous androgen use. The endometrial aspirate revealed FIGO grade 1 endometrioid adenocarcinoma. She underwent total hysterectomy with bilateral salpingo-oophorectomy and pelvic lymph node dissection with uneventful clinical course.

Pathologic Findings

An incidental microscopic finding of tubular structures is found at the right parametrium, which measures up to 3.2 mm in greatest dimension. Histology reveals small to medium-sized tubules lined by pseudostratified columnar epithelium with stereocilia on the luminal surface and a layer of basal cells, with eosinophilic secretion within the lumen. The tubules are surrounded by well-defined layers of smooth muscle cells.

By immunohistochemistry, the epithelial cells at the tubules are positive for GATA3, PAX8 and androgen receptor. p63 highlights the basal cells. The epithelial cells and the basal cells are both negative for ER, PR and NKX3.1. The immunoprofile supports a mesonephric histogenesis for these tubules, the morphology of which resembling that of epididymal tubules.

Discussion

Mesonephric remnants with epididymis-like morphology is a rare phenomenon in the female genital tract. Hernandez et al (1) reported a case of postmenopausal woman who underwent bilateral salpingo-oophorectomy for a benign ovarian cyst and was incidentally noted to have epididymis-like virilization at the right paratubal tissue, with no history of exogenous hormonal manipulations. Lin et al (2) described the microscopic findings in gynecological tissue from 55 transmasculine individuals who underwent gender-affirming surgery, with prolonged testosterone exposure. Four of them showed paratubal epididymis-like mesonephric remnant hypertrophy. Singh et al (3) reported a case of epididymis-like tissue at left paratubal location in a 28-year-old female to male transgender patient who underwent gender-affirming surgery and received injectable testosterone for 3 years.

Our case had no prior history of hormonal therapy, which serves to illustrate that this phenomenon is not restricted to exogenous androgen use. The exact etiology is uncertain but it was speculated to be related to hormonal changes affecting the ratio of testosterone to estradiol levels during menopause (1). This case also provides additional evidence for the developmental plasticity of mesonephric remnants.

In conclusion, we report a rare occurrence of epididymis-like mesonephric remnants in a postmenopausal woman with endometrial carcinoma, which is an association that, to the best of our knowledge, has not been previously described for this phenomenon.

References

1. Hernandez A, Marcus A. Mesonephric Remnants With Epididymis-Like Virilization in a Postmenopausal Woman. *Int J Surg Pathol* 2020;28(2):173-174.
2. Lin LH, Hernandez A, Marcus A, Deng FM, Adler E. Histologic Findings in Gynecologic Tissue From Transmasculine Individuals Undergoing Gender-Affirming Surgery. *Arch Pathol Lab Med*. 2022;146(6):742-748.
3. Singh K, Sung CJ, Lawrence WD, Quddus MR. Testosterone-induced "Virilization" of Mesonephric Duct Remnants and Cervical Squamous Epithelium in Female-to-Male Transgenderers: A Report of 3 Cases. *Int J Gynecol Pathol*. 2017;36(4):328-333.

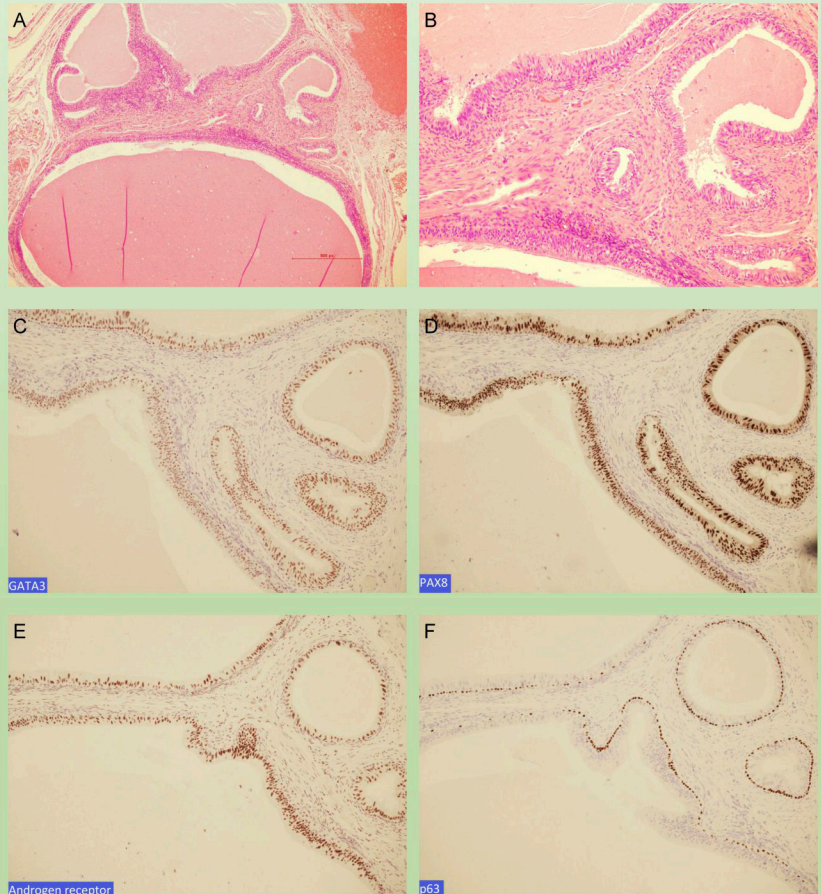


Figure 1. Histologic and immunohistochemical features of mesonephric remnants with epididymis-like features. It exhibits small to medium-sized tubules lined by pseudostratified columnar epithelium (A and B). The epithelial cells at the tubules are positive for GATA3 (C), PAX8 (D) and androgen receptor (E). p63 highlights the basal cells. (F)