Short report

# High mitotic index has no prognostic significance in mixed tumor of the vagina

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Mixed tumor of the vagina is a benign neoplasm usually developing in the posterior and distal vaginal wall, close to the hymen, with almost all reported cases exhibiting no or little cellular pleomorphism and rare mitotic activity. The present paper presents a case of a 30 year-old pregnant patient also known to have human immunodeficiency virus (HIV) infection in which a mixed tumor of the vagina was identified and completely surgically removed. Microscopic examination revealed a predominant spindle cell component characterized by high mitotic activity and mild cellular pleomorphism admixed with a minor epithelial component mainly represented by glandular structures lacking atypia and mitoses. Close follow-up showed that the high mitotic index has no prognostic significance in mixed tumor of the vagina, as our patient is well at 3 years after the initial diagnosis.

**Key words:** mixed tumor vagina, mitotic index, prognosis.

Dear Editor,

A 30 year-old patient presented to the Gynecology Department for a 39 weeks pregnancy. She was known to have human immunodeficiency virus (HIV) infection (clinico-immunologically staged B2) as well as a painless vaginal nodule of the lower one third of the posterior wall, which was removed at the time of the surgery (full-term birth by segmental-transverse cesarean section, live newborn, female). Macroscopically, the vaginal tumor of 25 mm diameter had well-defined margins and was of white color and homogeneous on the cut surface, with a rubbery, firm consistency. Microscopically, the nodule was well demarcated, not infiltrating the vaginal epithelium and without any connection with it, and was represented by an epithelial component admixed with a spindle component in various proportions. The spindle component was however predominant and represented by cells mostly arranged in fascicles (but corded, nested growths also being identified), with oval-shaped nuclei, indistinct nucleoli, syncytial type of cytoplasm and lacking atypia. A high mitotic activity was identified, with up to 30 mitotic figures/10 high power fields (HPF). The epithelial component was mostly represented by glands lined with cuboidal cells also lacking atypia and mitotic activity. Hemorrhage and necrosis were absent, but areas of squamous metaplasia, hyaline material as well as a myxoid stroma were present. Both components diffusely coexpressed CK7 and CD10 and were focally positive for EMA, GATA3 and SOX2, being negative for desmin, SMA, calretinin, inhibin, chromogranin, synaptophysin, SALL4, CD34, p63, and CD117. The final diagnosis was of a mixed vaginal tumor that was completely excised. Due to the high mitotic activity, follow-up was recommended, but the patient is well with no signs of local recurrence, 3 years after the diagnosis.

Mixed tumor of the vagina was initially described by Brown [1], but since then only case reports or small series of cases have been published [2, 3]. It is a benign tumor, more commonly developing in salivary glands, breast, skin, mediastinum or vulva, composed of an admixture of spindle and epithelial elements, usually developing in the posterior and

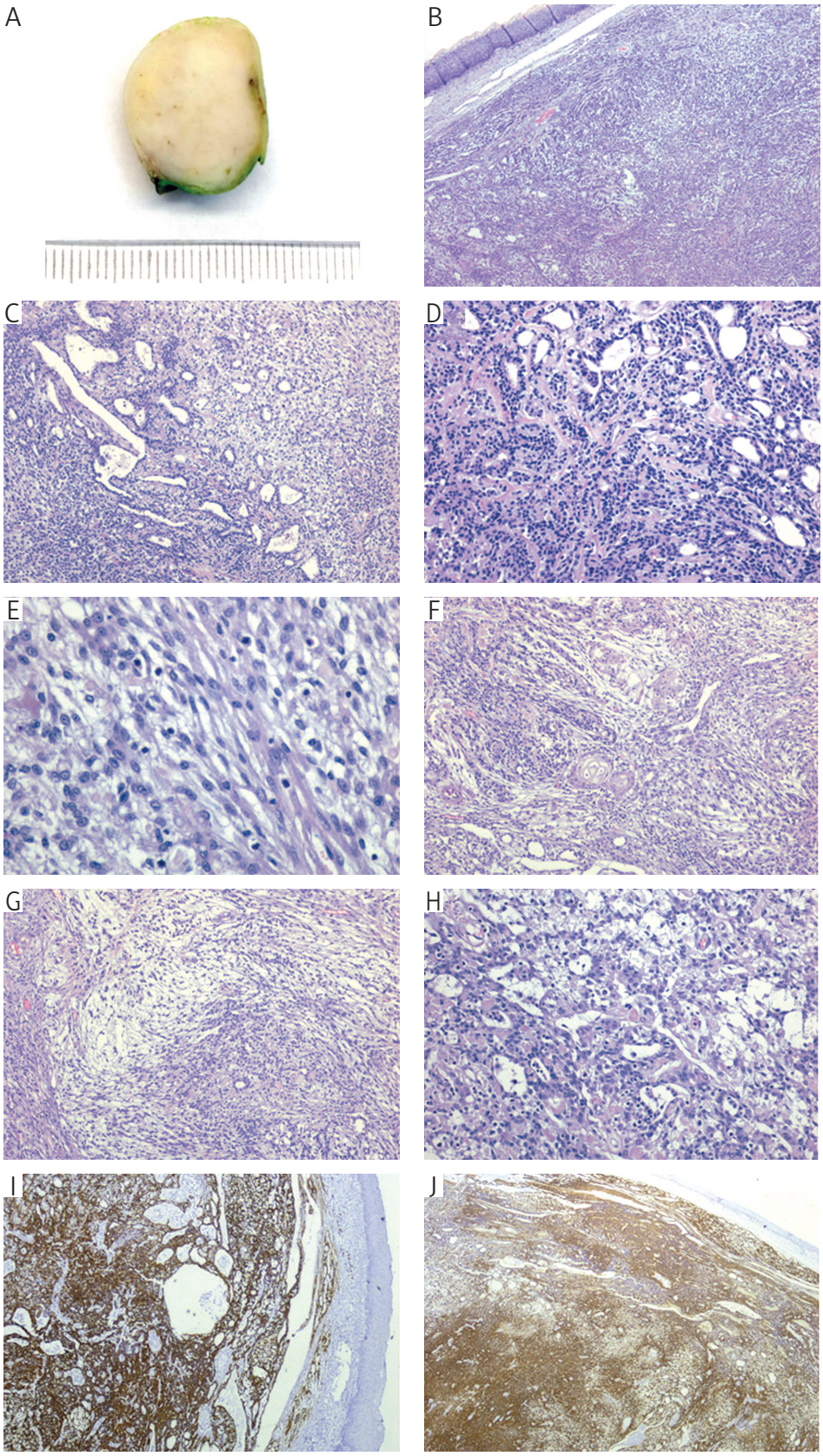


**Fig. 1.** Well-demarcated nodule, of white color and homogeneous on cut surface (A); microscopic examination reveals an epithelial component admixed with a spindle cell component (B, C); the epithelial component is represented by tubular structures lined with cells lacking atypia and mitoses (D); the spindle cells have oval-shaped nuclei, indistinct nucleoli, syncytial type of cytoplasm and lack atypia but numerous mitotic figures are identified (E); areas of squamous metaplasia, myxoid stroma and hyaline material were also identified (F, G, H); both components are positive for CK 7 (I) and CD10 (J)

distal vaginal wall, close to the hymen [2, 4, 5, 6]. Etiology and pathogenesis are unknown, while histogenesis is debatable, most publications suggesting a possible epithelial origin in embryonic remnants (most likely from the urogenital sinus rather than from Mullerian tissue), but paravestibular gland origin as well as an origin in myoepithelial cells or single multipotential cells has also been suggested, based on ultrastructural and immunohistochemical evidence [3, 7, 8, 9, 10].

Mixed tumor of the vagina is a benign neoplasm, with almost all reported cases exhibiting no or little cellular pleomorphism and rare mitotic activity. Surgical treatment is recommended, while complete excision does prevent local recurrence. However, mitoses were counted up to 10 per 10 HPF in some cases [7, 9]. The present case demonstrated a higher mitotic index than usual, raising a differential diagnosis with malignant mesenchymal or mixed tumors as well as with mesonephric adenocarcinomas with no specific immunohistochemical stains that could help in differentiating between these lesions [3]. Mixed tumor of the vagina is diagnosed based on careful microscopic examination and of interest, the high mitotic index has no prognostic significance as our patient is well after 3 years.

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*The author declares no conflict of interest.*

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