Diagnostic and Interventional Imaging (2019) **100**, 57—58

LETTER /*Genitourinary imaging*

MR imaging of vaginal cellular schwannoma

Keywords Schwannoma; Soft tissue tumor; Peripheral nerve; Magnetic resonance imaging (MRI); Vaginal tumor

Dear Editor,

Schwannoma is a benign, encapsulated, tumor that may develop in any peripheral nerve. Retroperitoneal schwannoma is a rare condition, and pelvic schwannoma occurrence is 1—3% [1]. Vaginal schwannoma is exceedingly rare and only few reports have been reported in the English language literature, without a detailed description of magnetic resonance imaging (MRI) findings.

A 56-year-old woman presented with a six months history of subtle pelvic pain and dyspareunia. No vaginal bleeding or other vaginal discharge were reported, and her medical history was unremarkable. Physical examination revealed a vaginal mass with soft consistency. MRI showed a perineal nodular mass that measured 42 × 35 mm with no cleavage with the right and the posterior walls of the vagina, the anterior wall of the rectum and the levator ani and small amount of fluid in Douglas pouch. (Fig. 1). The mass was homogeneously hypointense on T1-weighted images and mildly hyperintense on T2-weighted images, with heterogeneous enhancement after intravenous administration of a gadolinium chelate. Diffusion-weighted images ($b = 800\ s/mm^2$) and apparent diffusion coefficient (ADC) map revealed marked restricted diffusion of the mass, with minimum ADC value of $0.6 \times 10^{-3}\ mm^2/s$ and mean ADC value of $1.0 \times 10^{-3}\ mm^2/s$. Resection was performed through a 3 cm deep incision of the right wall of the vagina. Gross examination showed yellowish/gray nodule similar to a lipoma. Histopathologic examination showed a tissue with well-organized spindle cells in a palisade pattern and nuclear atypia. Immunohistochemical staining was positive for S100 and SOX-10 protein while desmin, EMA, p63, myogenin, CD34, actyne, and mucine were negative. Findings were consistent with cellular schwannoma.

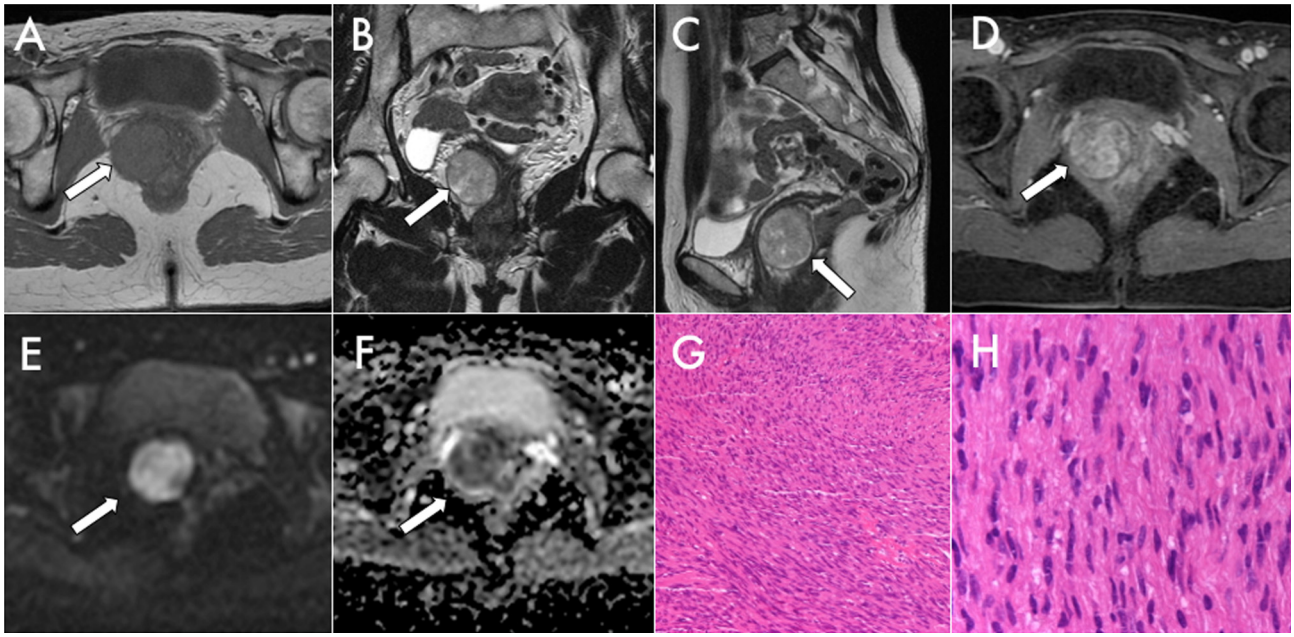

Figure 1. A 56-year-old woman with vaginal schwannoma. MRI at 1.5-T shows 42 × 35 mm mass with no cleavage with the right and the posterior walls of the vagina, the anterior wall of the rectum and the levator ani. A. T1-weighted image (TR/TE = 895/13 msec) in the transverse plane shows hypointense mass (arrow). B. T2-weighted image in the sagittal plane (TR/TE = 6630/98 msec). C. T2-weighted image in the coronal plane (TR/TE = 7470/109 msec) shows mildly hyperintense mass (arrow). D. The mass (arrow) displays heterogeneous enhancement. E. Diffusion-weighted image ($b = 800\ s/mm^2$) shows restricted diffusion of the mass (arrow). F. Mean ADC value of the mass (arrow) is $1.0 \times 10^{-3}\ mm^2/s$. G, H. Photographs show histopathological presentation of the mass (hematoxylin and eosin stain) at 20 × (G) and 40 × (H) magnifications.

Cellular schwannoma is a subtype of schwannoma that is characterized by higher cellularity and higher mitotic rate. It can be locally erosive and has a local recurrence rate of up to 40%. However, it is a benign tumor without metastatic potential. Preoperative diagnosis of paravaginal and vaginal schwannoma is difficult. A cystic appearance on MRI, detected in 66% of schwannoma [2], may be a clue for characterization. In our patient, MRI showed no cystic changes and only a slight hyperintensity on T2-weighted images. Restricted diffusion suggested solid and highly cellular lesion. Ahlawat et al. reported the ADC values of malignant peripheral nerve sheath tumors (minimum ADC of 0.2×10^{-3} mm^2/s, mean ADC of 0.8×10^{-3} mm^2/s), neurofibromas (minimum ADC of 2.1×10^{-3} mm^2/s, mean ADC of 2.6×10^{-3} mm^2/s), and schwannomas (minimum ADC of 1×10^{-3} mm^2/s, mean ADC of 1.1×10^{-3} mm^2/s) [3]. The definitive diagnosis of schwannoma relies on histopathological examination. When feasible, complete surgical resection yields good prognosis. Vaginal schwannoma should be included in the differential diagnosis of solid, encapsulated and well-defined lesions of the genital tract. MRI can be useful for defining anatomical relationships, the nature of the lesion and for detecting possible cystic components.

Disclosure of interest

The authors declare that they have no competing interest.

References

[1] Padmanaban N, Chandrabose PS, Esakki M, Kirubamani H, Srinivasan C. Gynaecological perspective of schwannoma: a rare pelvic tumour. J Clin Diagn Res 2016;10:QD03—5.
[2] Ueda M, Okamoto Y, Ueki M. A pelvic retroperitoneal schwannoma arising in the right paracolpium. Gynecol Oncol 1996;60:480—3.
[3] Ahlawat S, BlakeleyJ, Montgomery E, Subramaniam RM, Belzberg A, Fayad LM. Schwannoma in neurofibromatosis type 1: a pitfall for detecting malignancy by metabolic imaging. Skeletal Radiol 2013;42:1317—22.

N. Romano[a,*], S. Ranghetti[b], D. Intersimone[c], M. D'Amato[b], T. Stefanini[b]
[a] *Department of Health Sciences (DISSAL), University of Genoa, 16132 Genoa, Italy*
[b] *Department of Radiology, General Hospital Sant'Andrea, 19124 La Spezia, Italy*
[c] *Department of Pathology, General Hospital Sant'Andrea, 19124 La Spezia, Italy*

* Corresponding author.
E-mail address: romano.nicola@live.it (N. Romano)

https://doi.org/10.1016/j.diii.2018.08.003