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LETTER / *Musculoskeletal imaging*

Giant vascular eccrine spiradenoma of the leg: MR imaging findings

Keywords Eccrine spiradenoma; Giant vascular eccrine spiradenoma; MR imaging; Tissue characterization

Dear Editor,

Giant vascular eccrine spiradenoma (GVES) is a rare tumor. GVES is a highly vascular variant of eccrine spiradenoma (ES) that develops from the sweat gland. We report herein the magnetic resonance (MR) imaging features of a case of GCES of the leg.

A 41-year-old man presented with a solitary mass on the anterolateral aspect of his right leg and adjacent to the anterior tibial artery that had begun as a small nodule 7 years before. The mass experienced sudden growth following trauma and had become extremely painful. Physical examination revealed a 3.5×3 cm sized, violaceus, ulcerated, medium hard, nodular lesion. All laboratory findings were within normal limits. Ultrasonography showed a smoothly marginated and highly vascular lesion on the subcutaneous tissue of the proximal tibia. MR imaging showed a sharply lobulated, well defined, multiseptated mass on the subcutaneous tissue of the proximal tibia (Fig. 1). An excisional biopsy was performed at secondary referral state hospital and the case was referred to our university hospital with an initial diagnosis of malignant tumor. Histopathologic findings demonstrated prominent blood-filled vascular spaces, clearly delimited nests, and trabecular pattern epithelioid cell groups (Fig. 2). Immunohistochemical examinations revealed that the luminal large, pale epithelial cells were strongly positive for high molecular weight keratin and negative for low molecular weight keratin. The outer layer of small basaloid cells was strongly positive for smooth muscle antibody (Fig. 3). Thus, the lesion was diagnosed as a GVES.

Eccrine spiradenoma (ES) is a benign, uncommon, adnexal neoplasm that forms sharply limited lobular lesions. ES can occur in infancy but most commonly arises in patients between 20 and 30 years old. ES usually presents on the trunk and extremities as a tender dermal or subcutaneous papule or nodule and can be extremely painful [1]. In our patient, the mass was located on the portion proximal of the right leg, at the level of the tibia and was very painful. ES arises from the lower section of the eccrine duct and includes a mixture of epithelial (secretory) and myoepithelial cells. ES can also be clinically and histologically confused with vascular tumors due to a high degree of vascularity [2,3]. GVES is a very rare, highly vascular variant of ES, clinically distinguished by a larger size (> 2 cm) and histopathologically by a high vascularity [2,4,5]. To date, only nine cases of GVES have been reported in the English language literature [5]. However, the MR imaging findings have not been reported yet. Clinically, GVES may be mistaken for angiomatous lesions due to their florid vascularity appearance and hemorrhagic features. Similarly, our case with the same clinical findings and underwent severe internal bleeding following a small trauma. It is well known that tumor lobules are composed of two types of epithelial cells, namely small, dark staining basaloid cells located at the periphery and larger cells with a pale nucleus situated mostly in the center [6]. In our patient, the stroma demonstrated greatly dilated vascular spaces containing pale pinkish lymph fluid and erythrocytes. Following the immunohistochemical findings described above, it was determined that the tumor was composed of pale epithelial cells, small, dark basal cells, and myoepithelial cells. The diagnosis of GVES is elusive when given clinically and radiologically. In the differential diagnosis angiolipoma, angiosarcoma, and glomus tumor-like vascular lesions should be considered [7].

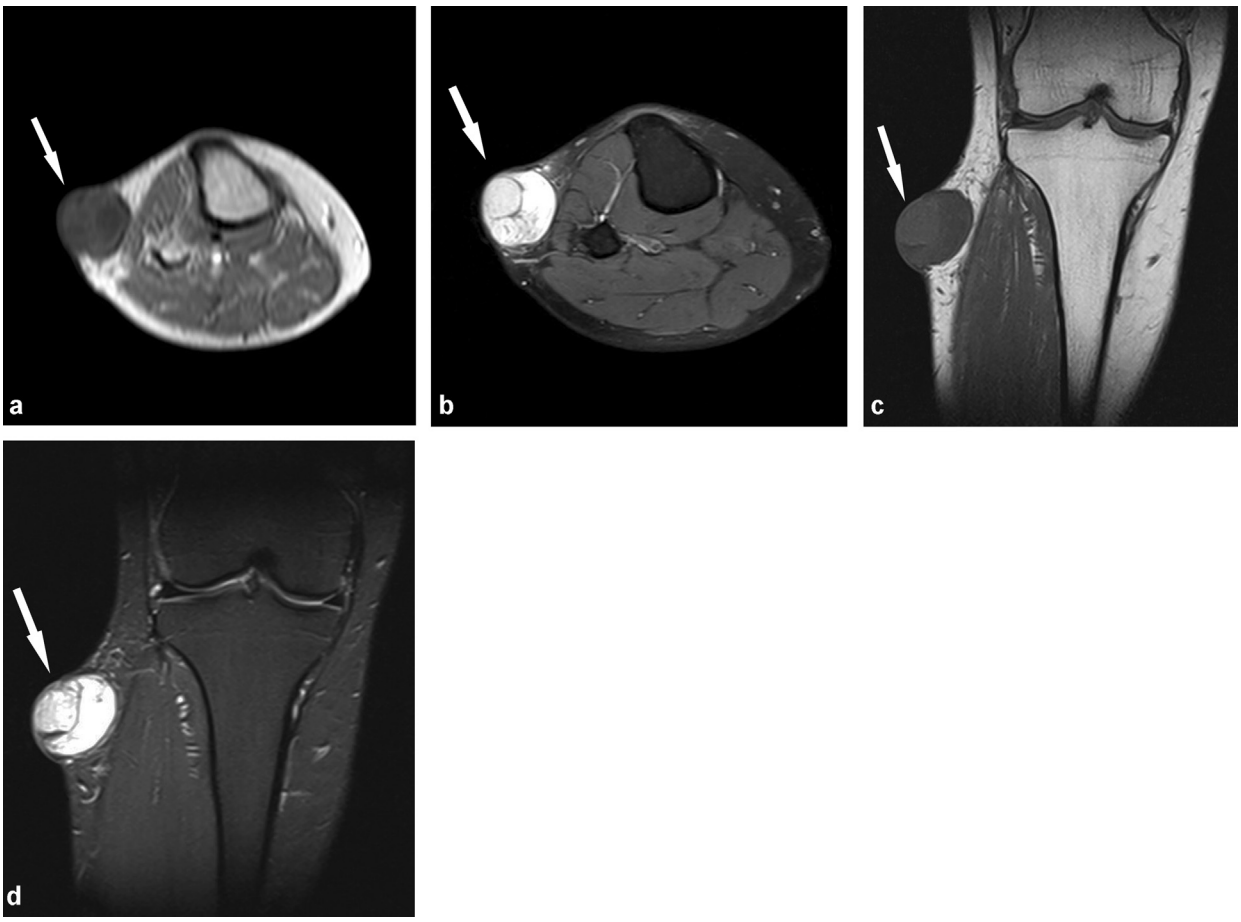

Figure 1. Magnetic resonance imaging shows a sharply lobulated, well defined, multiseptated mass lesion (arrow) on the anterolateral subcutaneous tissue at the level of the right fibula of the right leg. a: T1-weighted MR image (TR/TE, 560 ms/10 ms) in the transverse plane shows hypointense subcutaneous mass (arrow); b: fat-suppressed T2-weighted MR image (TR/TE, 4300 ms/35 ms) in the transverse plane shows well delineated, hyperintense mass (arrow) that contains hypointense septations; c: T1-weighted MR image (TR/TE, 560 ms/10 ms) in the coronal plane shows hypointense, bulking subcutaneous mass (arrow); d: fat-suppressed T2-weighted MR image (TR/TE, 4300 ms/35 ms) in the coronal plane shows well delineated, hyperintense mass (arrow) with multiple internal hypointense septations.

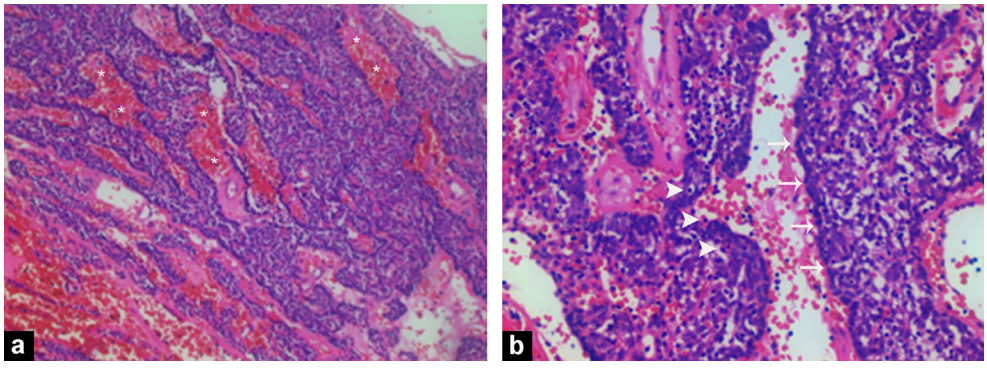

Figure 2. Photographs show results of histopathological analysis form tissues samples obtained from : a: the stroma shows greatly dilated vascular spaces containing red blood cells (asterisks) (hematoxylin and eosin staining; original magnification × 10); b: tubules are lined with two types of cells—cells with large pale nuclei in the center and basaloid cells with small, dark nuclei at the periphery (arrows). A few lymphocytes are located among tumor cells (arrowheads) (Hematoxylin and eosin staining, original magnification × 20).

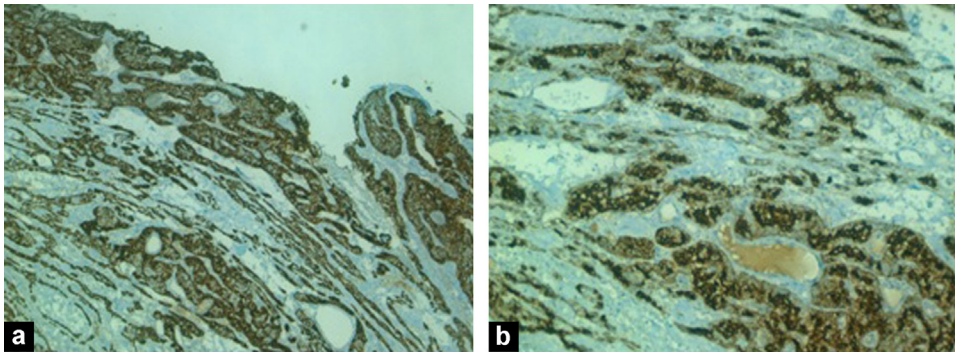

Figure 3. Photographs show results of immunohistochemical analysis. a: tissue sample from mass shows positivity for immunohistochemical staining for high molecular weight keratin (original magnification × 4); b: tissue sample from mass shows positivity for immunohistochemical staining for smooth muscle antigen (original magnification × 10).

But histopathological and immunohistochemical examinations are necessary for a definite diagnosis.

Disclosure of interest

The authors declare that they have no competing interest.

References

[1] Elander L, Emer JJ, McClain D, Amin B, Turner RB. A rare case of multiple segmental eccrine spiradenomas. J Clin Aesthet Dermatol 2011;4:38—44.
[2] Cotton DW, Slater DN, Rooney N, Goepel JR, Mills PM. Giant vascular eccrine spiradenomas: a report of two cases with histology, immunohistology and lectronmicroscopy. Histopathology 1986;10:1093—9.
[3] al-Nafussi A, Blessing K, Rahilly M. Non-epithelial cellular components in eccrine spiradenoma: a histological and immunohistochemical study of 20 cases. Histopathology 1991;18:155—60.
[4] Hey A, Grouls V, Röckelein G. Vascular eccrine giant spiradenoma: a case report with histology and immunohistology of a rare variant of benign sweat gland tumors. Z Hautkr 1988;63:444—7.
[5] Senol M, Ozcan A, Sasmaz S, Ozen S, Ciralik H. Giant vascular eccrine spiradenoma. Int J Dermatol 1998;37:221—3.
[6] Watanabe S, Hirose M, Sato S, Takahashi H. Immunohistochemical analysis of cytokeratin expression in eccrine spiradenoma: similarities to the transitional portions between secretory segments and coiled ducts of eccrine glands. Br J Dermatol 1994;131:799—807.
[7] Khaled W, Drape JL. MRI of wrist and hand masses. Diagn Interv Imaging 2015;96:1238—46.

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