Expert's comment concerning Grand Rounds case entitled “Tophaceous gout of the lumbar spine mimicking a spinal meningioma” by Pedro Ribeiro da Cunha Ferreira, António Judice Peliz, and Marcos Barbosa (Eur Spine J, 2016; DOI 10.1007/s00586-016-4831-7)

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The authors present an interesting case of a 77-year-old man with a history of gout presented with chronic low back pain and progressive paraparesis [1]. Imaging showed compressive mass lesion with a dural tail at the lumbar spine mimicking meningioma, but histopathological result revealed the diagnosis of tophaceous gout. Therefore, the article highlights the possibility of gout to involve the spine and appears as intradural extramedullary mass lesion similar to meningioma and thus to correlate the given radiological findings with the clinical data.

Tophaceous gout uncommonly affects the axial skeleton [2]. Spinal gout was first described by Kersley et al. [3] in 1950, and in 1953 by Koskoff et al. [4].

Gout may affect any spinal structure of the spine, such as intervertebral discs, facet joints, laminae, vertebral

bodies, pedicles, ligamentum flavum, filum terminale, and the soft tissues adjacent to the spinal column [5].

In case of spinal gout, X-rays may be normal or reveal soft tissue edema. Computed tomography may show erosions located in facet joints [6] and damage to soft tissue with the presence of low-density nodule or mass in some cases [7].

Konatalapalli et al. [8] retrospectively reviewed 64 CT images of the spine from patients with gout and found out that 14% of them presented features of spinal gout.

The authors mentioned the role of dual-energy CT with high sensitivity (91.9%) and specificity (85.4%) identifying gout tophi; the authors also stated that in the majority of cases, definitive diagnosis of gout can only be made by histological examination of the biopsy material, this, in my point of view, is very important to stress on the rule of dual-energy CT in the cases of intradural lesions. In every day practice, when we encounter a case of spinal intradural extramedullary soft tissue lesion by MRI, we rarely recommend CT scan.

Spinal tumors account for only approximately 5–15% of the nervous system neoplasms [9]. Intradural extramedullary spinal cord tumors (IESTs) account for about 60% of the intraspinal tumors, [10] and include schwannomas [11, 12] (30%), meningiomas [12] (25%), neurofibromas, teratomas, lipomas, and metastatic tumors. Most of these lesions are primary. Drop metastases can be also observed at this location [13]. Most intradural extramedullary tumors are benign, and they exhibit no specific symptoms.

Primary diagnostic modality for IESTs is magnetic resonance imaging (MRI) without and with contrast enhancement. Furthermore, computerized tomography (CT) scan, thin cuts with reconstructions (“bone windows”) are important to evaluate bony anatomy.

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The paper highlighted a case of intradural extra-medullary soft tissue mass with enhanced dural tail diagnosed by MRI, in this context; meningioma comes on top of the differential diagnosis and here is the challenge in the diagnosis of such lesions.

Spinal meningiomas are iso- or hypointense on T1-weighted images and slightly hyperintense or hypointense on T2-weighted MRI. Upon contrast application, they enhance vividly (except for a calcified part) and frequently display a “dural tail” sign. In 75% of meningiomas, calcifications were registered.

In magnetic resonance imaging (MRI), tophaceous gout is usually characterized by a homogeneous image with a signal ranging from intermediate to low on T1, on T2; it appears homogeneous and may show low or high intensity [14–17]. When contrast is used, peripheral heterogeneous or homogeneous contrast enhancement may occur, revealing reactive vascularization [14–18].

Accordingly, the image picture of meningioma and tophaceous gout is alike and differentiation depends on histopathology as stated by the authors; however, the radiologist has a role in raising the suspicion of this diagnosis whenever the clinical diagnosis of gout is mentioned. In conclusion, the clinical information is crucial and should be considered in reporting similar cases. The case also raised our attention to the rule of dural-energy CT in the diagnosis of intradural lesions.

Compliance with ethical standards

Conflict of interest No conflict of interest.

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