wjpmr, 2022,8(7), 154-155

SJIF Impact Factor: 5.922

WORLD JOURNAL OF PHARMACEUTICAL AND MEDICAL RESEARCH

www.wjpmr.com

Review Article

ISSN 2455-3301

WJPMR

PERIPHERAL NERVE TUMOR: THE TARGET SIGN

Ghannam Abdelaziz*, Mekaoui Jalal, Boufettal Moncef, Bassir Reda Allah, Kharmaz Mohamed, Lamrani Moulay Omar and Berrada Mohamed Salah

Department of Orthopedic Traumatology, CHU Ibn Sina, Faculty of Medicine and Pharmacy of Rabat, Mohamed V University, Rabat, Morocco.

***Corresponding Author: Ghannam Abdelaziz**
Department of Orthopedic Traumatology, CHU Ibn Sina, Faculty of Medicine and Pharmacy of Rabat, Mohamed V University, Rabat, Morocco.

Article Received on 21/05/2022 **Article Revised on 11/06/2022** **Article Accepted on 01/07/2022**

INTRODUNTION

Nerve tumors Peripheral devices (NPT) are common and can be benign or malignant. The clinical distinction between the two entities, especially in patients with type I neurofibromatosis (NFI) is difficult.[1] Indeed, NF1 is the greatest risk factor for the development of a malignant tumor of the peripheral nerve sheath.[2]

KEYWORDS: Peripheral nerve; Tumor; MRI.

Clinically, NPT can be asymptomatic or manifest as a mass of soft parts, with or without symptoms related to the affected nerve (neuralgia, amyotrophy, etc.).

MRI is useful for the positive diagnosis of NPT, but especially for the differential diagnosis between a benign and malignant nerve tumor. Many radiological signs have been reported in the literature, allowing the distinction between a benign tumor and a malignant tumor, including the "target sign".[1]

Most benign NPTs are iso-signal or discrete T1 hypersignal with respect to muscle and marked T2 hypersignal with respect to fat. The "target sign" or "target sign" is defined by a central hyposignal occupying more than ¾ of the lesion with a peripheral hypersignal in T2. After injection, the "target sign" is reversed with a central hypersignal and a peripheral hyposignal (Figure 1 and 2).[3,4]

This sign reflects the tumor architecture. During tumorogenesis, the growth of the endoneural myxoid component separates the myelinated and unmyelinated axons. Schwann cells and collagen fibers proliferate and are surrounded by myxoid tissue. In T2, the target image is formed of a peripheral hypersignal corresponding to the myxoid signal and a central hyposignal, to the fibrous signal.[1,5] Intra-lesional necrosis and hemorrhage, can in turn achieve a target appearance.[2]

The "target sign" remains a very pathognomonic sign of neurofibromas, in patients with NF1, with a sensitivity and specificity of 100%.[1]

Histologically, the sign of the target represents a myxoid tissue surrounding a cellular matrix (fibroblasts, Shwann), collagen or mixed.

Other radiological aspects and signs make it possible to distinguish the benign and malignant nature of TNB, namely: tumor size and growth, peripheral enhancement, peri-lesional pseudo-edema and endotumoral cystic areas.[2]

The target appearance in TNBs, especially neurofibromas, is a very useful sign for differentiating TNB from a malignant entity.

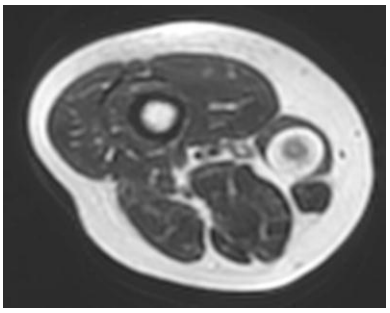

Fig 1 (a).

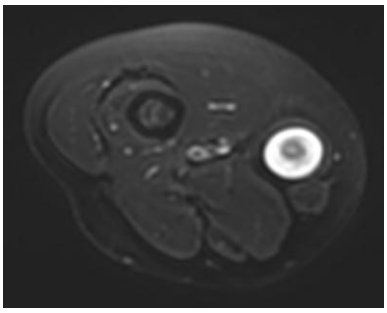

Fig 1 (b)

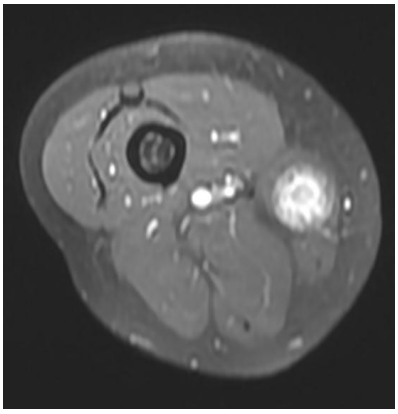

Fig 1 (c)

Figure 1: MRI in axial T2 (a), T2 after fat saturation (b) and T1 after injection of gadolinium (c), in a 30-year-old woman with intramuscular neurofibroma involving the right Sartorius muscle. The nerve tumor presents a central hyposignal and a peripheral hypersignal in T2 (a and b) with an inversion of the signal after injection, this is the "reverse target sign" (c).

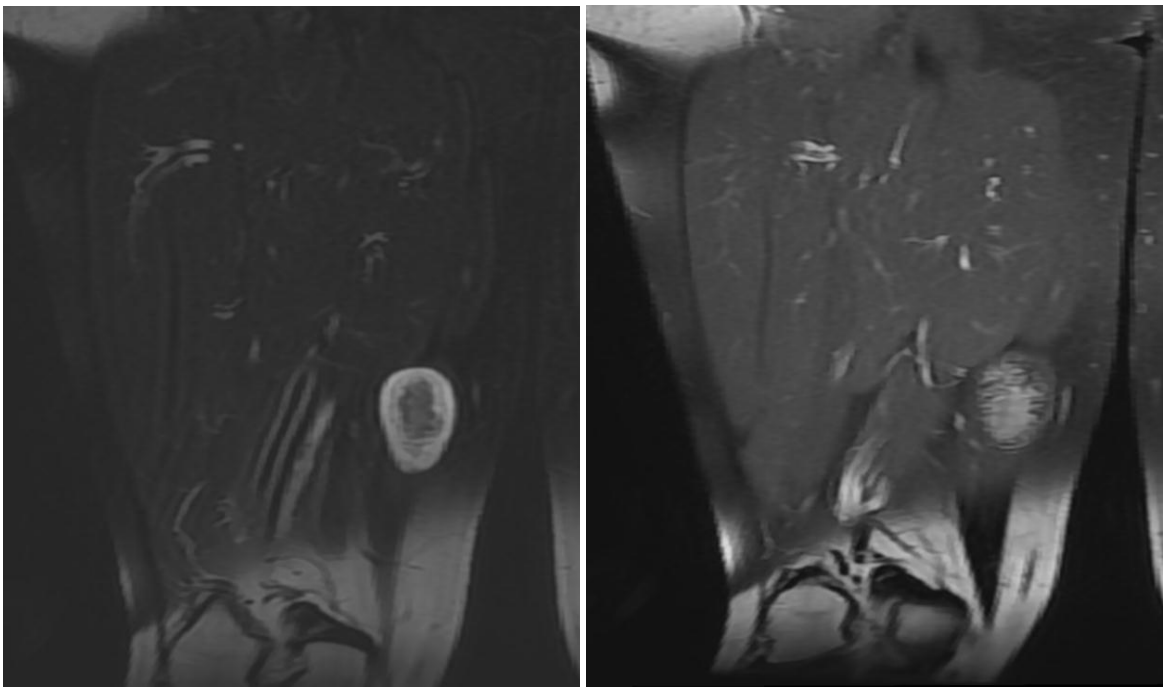

Fig 2 (a) **Fig 2 (b)**

Figure 2: MRI in T2 (a) and T1 coronal slices after injection (b), showing the "target sign" and the "reverse target sign".

REFERENCES

1. Ravi Bhargava, David M. Parham, Olga E. Lasater, Radha S. Chari, Gang Chen, Barry D. Fletcher. MR imaging differentiation of benign and malignant peripheral nerve sheath tumors: use of the target sign. Pediatr Radio!, 1997; 27: 124-129.
2. Junji Wasa, Yoshihiro Nishida, Satoshi Tsukushi, Yoji Shido, Hideshi Sugiura, Hiroatsu Nakashima, Naoki Ishiguro. MRI Features in the Differentiation of Malignant Peripheral Nerve Sheath Tumors and Neurofibromas. AJR, 2010; 194: 1568–1574.
3. Jee WH, Oh SN, McCauley T, et al. Extraaxial neurofibromas ver- sus neurilemmomas: discrimination with MRI. AJR Am J Roentgenol, 2004; 183: 629–33.
4. 14. Patel NB, Stacy GS. Musculoskeletal manifestations of neurofibromatosis type 1. AJR Am J Roentgenol, 2012; 199: W99–106.
5. Klaus Woertler. Tumors and Tumor-Like Lesions of Peripheral Nerves. Semin Musculoskelet Radiol, 2010; 14(5): 547-55.