Femoral nerve schwannoma: MRi diagnosis
Schwanoma de nervo femoral: Diagnóstico por ressonância magnética

Manoel Baldoino Leal-Filho¹,
Raimundo Gerônimo da Silva Júnior²,
Luciana Maria Pinheiro-Leal³,
Lucas Nunes Montechi⁴,
Iansey Willer Sousa Lima⁴

RESUMO
Objetivo: Os autores relatam um caso de schwannoma de nervo femural por achados de imagem. Caso: A paciente queixava-se de dor e inchaço na região inguinofemoral à direita. A Ressonância Magnética (RM) mostrou um schwannoma originando-se do nervo femural, na região inguinofemoral à direita. Através de procedimento microcirúrgico, o tumor foi totalmente removido, com boa evolução no pós-operatório. Conclusão: Os autores enfatizam que o schwannoma de nervo femoral na região inguinofemoral deve ser considerado tendo como base os achados de RM.

Palavras-chave: schwanna femoral, lesões inguinofemorais.

ABSTRACT
Objective: The authors report a case of femoral nerve schwannoma by MR imaging findings. Case: A patient presenting with right inguino-femoral pain and swelling was submitted to a Gadolinium-enhanced Magnetic Resonance Imaging (MRI): a schwannoma arising from the femoral nerve in the right inguino-femoral area was disclosed. She underwent microsurgical procedure, with total removal of the lesion. Postoperatively, the inguino-femoral pain and swelling disappeared, with complete relief of symptoms. Conclusion: The authors stress that femoral nerve schwannoma in the inguino-femoral place should be considered according to MRI findings.

Key words: femoral schwannoma, inguino-femoral lesions.
INTRODUCTION

Schwannomas are nerve tumors that arise from the Schwann cell proliferation in the nerve root sheaths, whose diagnosis is established according to histological and immuno-histochemical analysis. They are usually encapsulated, solid or cystic, causing compression symptoms. In some cases MRI findings are strongly correlated with the surgery and histopathology.

There is no clear knowledge of the incidence of schwannoma in femoral nerve due to sporadic publications in the literature. The authors report a rare case of femoral nerve schwannoma in the inguinofemoral region, whose imaging findings were very important to establish the diagnosis.

CASE REPORT

A 55-year-old woman presented with two-year history of right side inguinofemoral pain and progressive swelling. The first clinical evaluation disclosed a Tinel’s sign in the right side of the inguinofemoral region. MRI demonstrated a lesion along the right femoral nerve, with solid and cystic components, with aspect of a schwannoma (Fig 1-A,B,C), that was removed by microsurgery (Fig 1-D). Under general anesthesia, the patient was positioned in supine position: a 5cm incision was made about 5-cm down and parallel to the inguinal ligament and crossing down its medial point. Dissection was carried through the subcutaneous fat to the fascia that was opened lateral to the femoral canal. The tumor was easily visualized and removed under microscopy. Histological analysis confirmed the diagnosis of a schwannoma (Fig 2-A, 2-B). Postoperatively, the patient presented with a good recovery, with dissaperance of the inguinofemoral pain and swelling.

DISCUSSION

In the present case, the preoperative imaging study permitted the surgeon to consider tumor as the first possibility, despite the fact that in the inguinofemoral area, vascular and inflammatory conditions present themselves as the most frequent pathologies.
Peripheral schwannomas are usually benign tumors of the nerve sheath presenting as round or oval mass and, in spite of the length, it is possible to treat them surgically without permanent damage to the nerve.\(^3,4,7\).

MRI evaluation was important to establish the diagnosis of a tumor, according to the image that showed a tumor arising in the way of the right femoral nerve, in the inguinofemoral area, with solid and cystic components. According to MRI, schwannomas exhibit intermediate signal intensity on T1-weighted images and hyperintensity on T2-weighted images and the enhancement tends to be heterogeneous\(^8\).

Schwannomas and neurofibromas, as tumors of the nerve sheath, are composed mainly of Schwann cells. A target sign has been described in cases of nerve sheath tumors: this finding consists of a central hypointensity surrounded by a hyperintense rim on T2-weighted and enhanced T1-weighted images and this target sign may be absent when the tumor undergoes necrosis, hemorrhage or cystic change.\(^6,7,8,9\). In cases of schwannomas, tumors adhere to the nerve fibers rather than infiltrate them, whereas in neurofibromas they grow within the nerve, leading to a dissociation of the nerve fibers.\(^6,7\).

Histological HE and immuno-histochemical evaluation allowed the final diagnosis of a schwannoma: this tumor is composed of tightly packed spindle-shaped cells that sometimes show cellular pleomorphism as a sign of degeneration, as well as cystic components.\(^6,7,8\).

Clinical and imaging findings were important to support the surgical procedure as an effective treatment, and a good recovery in the follow-up of the patient.

**REFERENCES**


**CORRESPONDING AUTHOR**

Dr. Manoel Baldoino Leal Filho  
Rua Thomaz Tajra, 1222 / 300  
CEP: 64048-380  
Teresina – PI – Brazil.  
email: manoelbaldino@uol.com.br