

## Caso Clínico / Radiological Case Report

**MOREL-LAVALLÉE LESION***LESÃO DE MOREL-LAVALLÉE*Filipa Vieira<sup>1</sup>, Teresa Dionísio<sup>1</sup>, Diogo Rocha<sup>1</sup>, Carlos Pina Vaz<sup>1</sup><sup>1</sup>Serviço de Imagiologia do Hospital de Braga  
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e-mail: f\_g\_v@msn.comRecebido a 19/01/2016  
Aceite a 02/02/2016**Abstract**

Morel-Lavallée lesion is a closed degloving injury that results of separation of skin and subcutaneous tissue from the underlying fascia. This lesion is more common on the thigh and trauma is the most frequent cause. MRI is the preferred imaging technique for its evaluation. Early detection is important to avoid complications such as bacterial growth or extensive skin necrosis. The authors report two cases of Morel-Lavallée lesions, one in a patient with a painless mass on the thigh after a traffic accident and another in a young football player with a painful swelling on the thigh with fluctuation.

**Key-words**Morel-Lavallée lesion; Degloving injury;  
Magnetic resonance imaging.**Resumo**

A lesão de Morel-Lavallée é uma lesão fechada em “deslucamento” que resulta da separação de pele e tecido subcutâneo da fáscia subjacente. Esta lesão é mais comum na coxa e o trauma é a causa mais frequente. A Ressonância Magnética é a técnica de imagem de eleição para a sua avaliação. A detecção precoce é importante para evitar complicações, como a proliferação bacteriana ou a necrose da pele.

Os autores relatam dois casos de lesões de Morel-Lavallée, num homem com uma massa indolor na coxa após um acidente de trânsito e num jogador de futebol com uma tumefação dolorosa na coxa com flutuação.

**Palavras-chave**Lesão de Morel-Lavallée; Lesão em  
deslucamento; Ressonância magnética.**Case Reports****Patient 1**

A 63-year-old male presented with a painless expanding mass on the right trochanteric region. The patient suffered a pedestrian traffic accident 3 weeks prior. Following the accident, a hematoma was noted in this area, which was managed conservatively but the lesion did not disappear.

**Patient 2**

A 22-year-old football player presented with a painful swelling on the left thigh with fluctuation, which had slowly increased in size during the past 2 months.

On both cases, Magnetic Resonance Imaging (MRI) was performed, which showed a well-defined collection extending along superficial fascia overlying the muscle plane, appearing hypointense on T1-weighted images and hyperintense on T2-weighted/STIR images (Fig. 1 and 2).

Both patients were managed with percutaneous drainage and compression bandage with full recovery, remaining asymptomatic and with no recurrence.

**Discussion**

Morel-Lavallée lesions are closed degloving soft tissue injuries, as a result of abrupt separation of skin and subcutaneous tissue from the underlying fascia. Shear injury disrupts perforating vessels and lymphatics, thus creating a potential space filled with serosanguinous fluid, blood, and necrotic fat. Finally, a peripheral fibrous capsule is formed, secondary

to an inflammatory reaction, which may account for the perpetuation and occasional slow growth of the lesion<sup>1</sup>. The condition generally takes several days to develop, and the diagnosis is often delayed.

These lesions are more often encountered on the thigh but they have been reported in other locations such as the lumbar region, knee or scapula<sup>2</sup>.

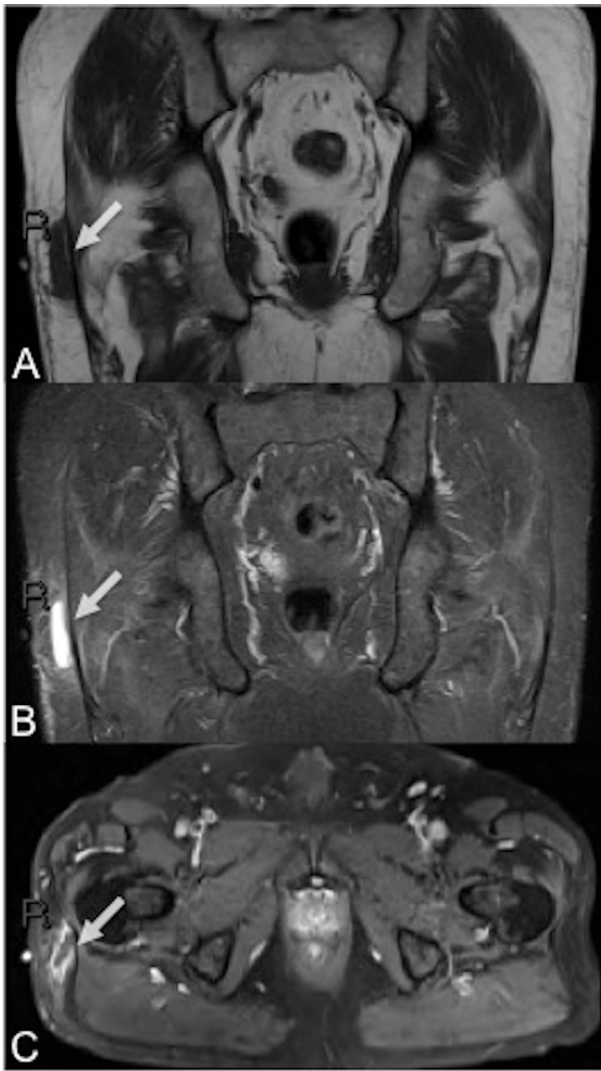
As in Patient 1, trauma is the most common cause and pelvic and acetabular fractures should be excluded. In a small fraction of patients, there is no mechanism of injury involved, only vigorous exercise of the anatomical area; thus some authors speculate that overuse or repeated microtrauma could result in a Morel-Lavallée lesion<sup>3</sup>, which could be the case of Patient 2.

Patients with Morel-Lavallée lesions present with soft tissue swelling, bulging, and fluctuation in the affected area.

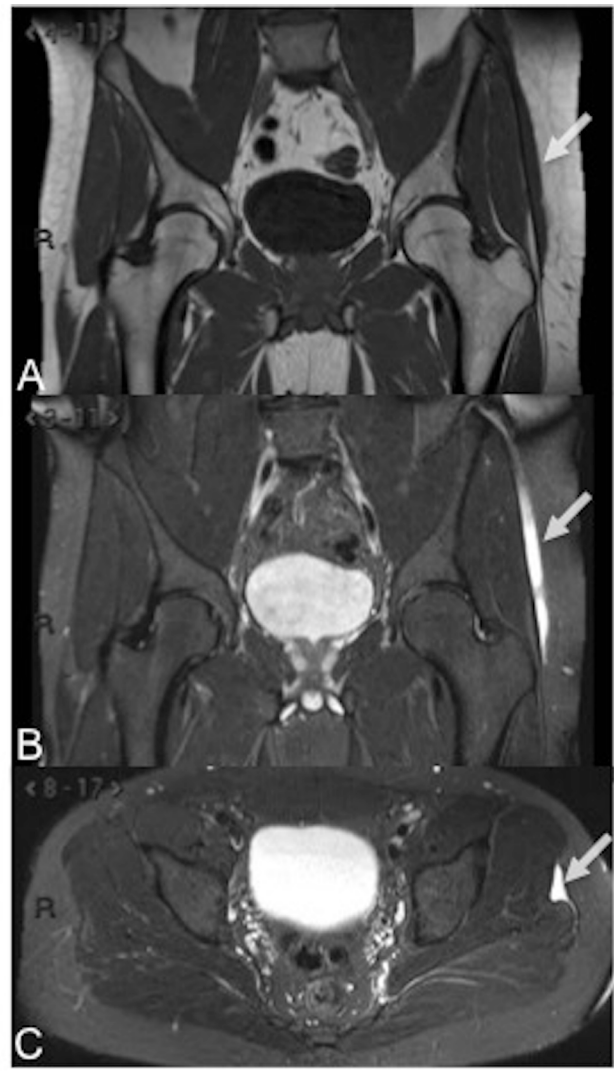
Ultrasonographic imaging may show a focal anechoic to isoechoic complex collection located superficial to the muscle plane and deep to hypodermis with or without a thickened capsule. Furthermore, echogenic foci may be seen.

Computed Tomography can show fluid-fluid level resulting from sedimentation of blood components and may reveal a capsule surrounding the lesion.

MRI remains the preferred imaging technique in the evaluation of Morel-Lavallée lesion<sup>4</sup>. Signal characteristics of the lesion depend on chronicity and internal contents. The lesions are often hypointense on T1W sequences and hyperintense on T2W sequences, and may resemble a simple fluid collection. The lesions may also appear homogeneously



**Figure 1** – Patient 1: Oblong collection situated in the deep subcutaneous tissue of the lateral aspect of the right hip, in close contact with the iliotibial tract. It demonstrates low signal on T1W images (A) and high signal on STIR (B), with peripheral contrast enhancement (C). Adjacent associated edema is also seen.



**Figure 2** – Patient 2: Elongated collection, which is isointense on T1W images (A) and hyperintense on STIR (B and C), located in the deep subcutaneous tissue adjacent to the iliotibial tract, extending from the level of the iliac crest to the greater femoral trochanter.

bright on both T1W and T2W sequences, which reflects a high internal concentration of methemoglobin. Post-contrast images may show peripheral enhancement.

The differential diagnosis of a Morel-Lavallée lesion includes posttraumatic fat necrosis, hematoma, and posttraumatic early stage myositis ossificans.

#### References

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Various treatment protocols can be used, such as compressive therapy, percutaneous drainage, sclerotherapy, and open debridement, depending on the timing of identification of this lesion and the presence of a capsule<sup>5,6</sup>.

Early detection is important to avoid complications such as bacterial growth or extensive skin necrosis.

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