

Compressive femoral neuropathy: a rare complication of anticoagulation

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ABSTRACT

The most common coagulation disorder associated with warfarin use is bleeding, but compressive femoral neuropathy is an unusual presentation. A 63-year-old man with compressive femoral neuropathy from an iliacus haematoma is reported. The diagnosis was confirmed on magnetic resonance imaging and treated conservatively with good clinical response and radiological evidence of resolution.

Keywords: coagulation disorder, compressive femoral neuropathy, femoral neuropathy, iliacus haematoma, warfarin complication

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INTRODUCTION

The most serious and common complication associated with anticoagulation using warfarin is bleeding.^(1,2) Compressive femoral neuropathy, however, is an unusual presentation.⁽³⁾ The clinical and radiological features of a case of spontaneous iliacus haematoma presenting as compressive femoral neuropathy and its management are presented.

CASE REPORT

A 63-year-old man who was on warfarin was admitted for complaints of a two-day duration of right lower limb paraesthesia and weakness. He had a history of atrial fibrillation and aortic valve replacement and was on warfarin for thromboprophylaxis. The symptoms were acute and spontaneous in onset with no associated back pain, prior trauma or bowel and urinary symptoms.

On examination, he was lying with his right hip flexed and passive extension of his hip was tender. Numbness was present in the L1, L2, L3 and L4 dermatomes. Motor testing revealed full active range of motion in his knees and ankles, although he could not tolerate motor testing at his hip. Investigations revealed a deranged coagulation profile with an international normalised ratio of 7.5 and ultrasonography showed possible fluid in the fascial planes over the anterolateral aspect of the proximal right thigh.

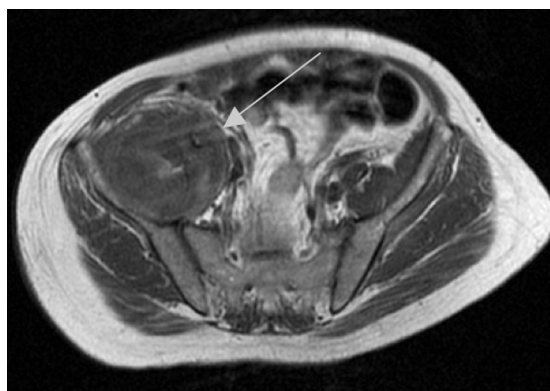


Fig. 1 Axial T1-W MR image shows a large, fairly homogeneous mass sited within the right iliacus muscle, measuring 6.7 cm × 5.6 cm × 12.3 cm displacing the right psoas muscle anteriorly, and which is largely isointense to the muscle (arrow).



Fig. 2 Coronal T1-W MR image shows displacement of the psoas muscle by the lesion (arrow).

Magnetic resonance (MR) imaging confirmed the diagnosis and showed a homogeneous mass within the right iliacus, displacing the right psoas anteriorly. This was isointense to muscle on T1-weighted (Figs. 1 & 2) and T2-weighted (Fig. 3) images, and slightly hyperintense on fast spin-echo inversion recovery (Fig. 4) images, with a hyperintense rim that showed enhancement. He was given fresh frozen plasma to correct his coagulation profile and started on a trial of conservative management with a view to

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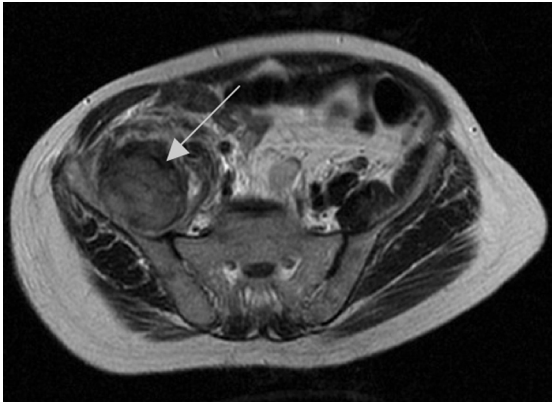


Fig. 3 Axial T2-W MR image shows a lesion (arrow) that is largely isointense to the muscle.

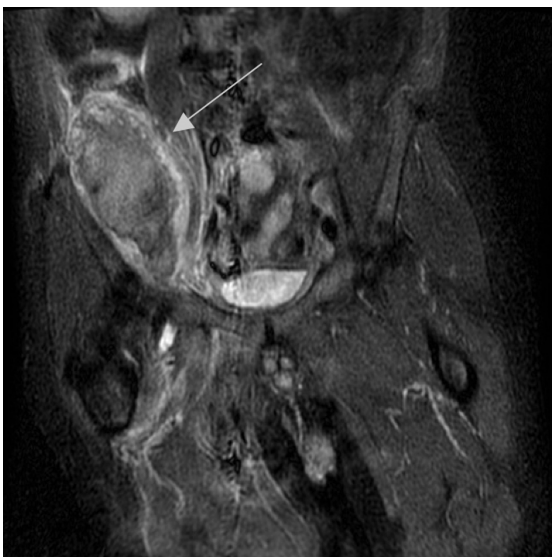


Fig. 4 FSEIR MR image shows that the lesion is slightly hyperintense (centrally) with a significant hyperintense rim (arrow).

surgical decompression if his symptoms deteriorated or showed no improvement. A repeat MR imaging two months later showed resolution of the haematoma.

DISCUSSION

Warfarin is frequently used as an oral anticoagulant in a variety of clinical settings, e.g. atrial fibrillation or following mechanical valvular replacement,^(1,2) as was in the case of this patient. This is however associated with risk of bleeding, which is its most common complication, especially in elderly patients above 65 years of age.⁽⁴⁾ Therefore, doctors treating patients on warfarin need to be aware of this and have a high index of suspicion, especially when faced with its less common presentations such as this case.⁽⁵⁾

Iliacus haematoma is a complication of anticoagulation,⁽¹⁾ haemophilia or trauma,⁽³⁾ and usually

arises spontaneously as its location shields it from injury, although in patients with coagulopathy, it may also arise from minor trauma to the hip flexors. This increases the pressure in the iliopsoas compartment,⁽⁶⁾ leading to compressive femoral neuropathy. The presentation is thus an acute unilateral lower limb numbness or paraesthesia as sensory nerves are less well myelinated, although in more severe or chronic cases, weakness is present as well. The other feature that points to the diagnosis is the presence of a flexed hip on the involved site that is tender on passive extension. This is because the intramuscular haematoma mimics the features of compartment syndrome.

When investigating these complaints, the deep location of the muscle and the presence of overlying bowel loops make ultrasonographical assessment difficult, thus the modality of choice for radiographical assessment should be MR imaging. There is still no conclusive evidence supporting either conservative or surgical management but it should be no different from other compressive neuropathies; the clinical symptoms of which parallel the histopathological changes in the nerve. This starts from intermittent paraesthesia leading to constant paraesthesia and/or weakness and finally numbness and/or atrophy as the nerve progresses from endoneurial oedema to localised demyelination and eventually axonal degeneration. This means that the changes are potentially reversible if the presentation is early i.e. intermittent paraesthesia or constant paraesthesia before diffuse demyelination or axonal degeneration set in. The patient was thus treated conservatively⁽⁶⁾ and showed spontaneous improvement while his coagulopathy was being corrected. This clinical success was also accompanied by evidence of haematoma resolution on follow-up MR imaging.

REFERENCES

1. Thorgersen EB, Ofsti AM, Nyheim T, Abedini S. [Acute groin pain and femoral nerve deficit in a warfarin treated patient] *Tidsskr Nor Laegeforen* 2002; 122:2360-1. Norwegian.
2. Zhou XM, Zhuang W, Hu JG, et al. Low-dose anticoagulation in Chinese patients with mechanical heart valves. *Asian Cardiovasc Thorac Ann* 2005; 13:341-4.
3. Pirouzman F, Midha R. Subacute femoral compressive neuropathy from iliopsoas compartment hematoma. *Can J Neurol Sci* 2001; 28:155-8.
4. Wehinger C, Stollberger C, Langer T, Schneider B, Finsterer J. Evaluation of risk factors for stroke/embolism and of complications due to anticoagulant therapy in atrial fibrillation. *Stroke* 2001; 32:2246-52. Comment in: *Stroke* 2002; 33:2150-2; author reply 2150-2.
5. Wada Y, Yanagihara C, Nishimura Y. Bilateral iliopsoas hematomas complicating anticoagulant therapy. *Intern Med* 2005; 44:641-3.
6. Seijo-Martinez M, Castro del Rio M, Fontoira E, Fontoira M. Acute femoral neuropathy secondary to an iliopsoas muscle hematoma. *J Neurol Sci* 2003; 209:119-22.