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CLINICAL CASE

Comparative evolution of carotidynia on ultrasound and magnetic resonance imaging

Évolution comparée d'une carotidynie à l'écho-doppler et l'imagerie par résonance magnétique

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KEYWORDS
Carotidynia;
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Ultrasonography;
Follow-up

Summary Carotidynia is rare and associates neck pain with tenderness to palpation usually over the carotid bifurcation, the diagnosis of which is based on magnetic resonance imaging (MRI). Ultrasounds (US) are also frequently used but their accuracy in predicting the course of the disease is unknown. We are reporting the case of a 52-year-old man who presented a typical carotidynia. Clinical symptoms, ultrasound and MRI imaging evolution were closely correlated. Our case suggest that after a first MRI to set a positive diagnosis of carotidynia and exclude differential diagnoses, US which is more widely available and less expensive could constitute the imaging of reference for the follow-up.

MOTS CLÉS
Carotidynie ;
Imagerie par résonance magnétique ;

Résumé La carotidynie est une pathologie rare qui se caractérise par une douleur cervicale généralement en regard d'une bifurcation carotidienne, exacerbée par la palpation et dont le diagnostic est posé par imagerie par résonance magnétique. L'échographie doppler est fréquemment utilisée mais ses performances pour le suivi de la carotidynie sont mal connues. Nous rapportons le cas d'un homme de 52 ans qui a présenté un cas typique de carotidynie. Les

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Échographie ;
Suivi

signes cliniques et les données échographiques et d'IRM initiaux et au cours du suivi étaient bien corrélés. Notre cas suggère qu'après une première IRM qui établit le diagnostic positif et élimine les diagnostics différentiels, l'échographie (plus accessible et moins coûteuse) pourrait constituer l'imagerie de référence pour le suivi.

Introduction

According to the International Headache Classification, carotidynia is a type of neck pain associated with tenderness to palpation over the carotid bifurcation; it usually lasts around less than two weeks [1,2]. Though its prevalence is considered to be low, no precise epidemiological data is available. Indeed, since its first description by Fay in 1927, only a small series of patients have been published [3]. In addition, it is currently under debate whether it is a true independent clinical entity or a syndrome encompassing many varieties of cervical pain. Even though, carotidynia's discovery is often stressful for the patient, it is commonly admitted that its clinical course is benign and its risk of recurrence after appropriate treatment was reported to be low in small available series. Its long-term prognosis, particularly regarding risk of recurrence is, however, unknown [4]. Therefore, establishing a positive diagnosis appears to be the most important step in carotidynia's management. For that purpose, imaging can bring crucial information by making a positive diagnosis and eliminating other vascular and non-vascular etiologies. Indeed, suggestive radiological abnormalities of the carotid bifurcation zone, evidencing an inflammatory process, were reported recently particularly on ultrasound (US) and magnetic resonance imaging (MRI) [5,6]. As compared with US, MRI can more accurately rule out differential diagnoses (arterial dissection, hematoma...) than US [7], but is more expensive and less easily available. The aim of the present case report is to assess the evolution of a typical carotidynia case on US and MRI.

Case description

We are reporting the case of a 52-year-old man who was examined in the vascular medicine unit of the department of internal medicine of Montpellier university hospital for a unilateral left laterocervical pain triggered by palpations with temporal irradiation evolving during two days. The patient's main medical history includes:

- an antiphospholipid syndrome with arterial and deep venous adverse clinical expressions secondary to a systemic lupus erythematous under anticoagulant treatment;
- a B cell lymphoma under chemotherapy treatment, between two cycles at that time.

The physical examination found an apyrexial patient in a good general condition, with no palpable cervical node, no venous induration or signs of cutaneous inflammation. It also evidenced a left laterocervical pain triggered by palpation. There was no meningism, no palpable induration along the jugular vein, no tenderness on temporal area, no superior vena cava syndrome, no Horner's syndrome, no Eagle syndrome. Ionogram and hemogram were normal and above all there was no major biological sign of inflammation. A duplex US exploration of the neck showed a segmental hypoechoic wall thickening of the left carotid bifurcation, without lumen diameter reduction or intra-arterial/venous hemodynamic changes (Fig. 1a). MRI confirmed the suspicion of carotidynia by evidencing a thickened vessel wall with an increased gadolinium uptake on T1-weighted images with no lumen loss and ruled out alternative diagnoses (dissection, compressive/painful lymphadenopathy, submaxillary sialadenitis, abscess, giant cell arteritis, arterial/venous thrombosis, thyroiditis) (Fig. 1c).

Given that our patient exhibited a high bleeding risk (i.e. association of anticoagulant treatment and chemotherapy including corticosteroids), we did not treat him with the common reported treatment of carotidinya: nonsteroidal anti-inflammatory drug [3]. Therefore, an analgesic treatment with zolmitriptan was introduced for 7 days allowing a clear pain relief within 48 hours and a complete resolution of clinical symptoms in 3 weeks. Two duplex US explorations were conducted at day 7 and day 21, showing a gradual decrease in wall thickening that had almost completely disappeared on US performed at day 21 (Fig. 1b). A new MRI performed at day 21 confirmed full arterial recovery (Fig. 1d); a positron emission tomography-computed tomography (PET-CT) did not show any residual inflammation around the carotid bifurcation.

Discussion

The case we reported represents a typical case of a carotidynia whether in terms of clinical symptoms, radiological findings and benign course [4].

Its main interest lies in the fact that diagnosis and follow-ups were assessed simultaneously on duplex US and MRI with confirmation of the full regression of inflammation on PET-CT. To our knowledge, such an assessment has never been reported before. In a recent case report, Schaumberg reported that duplex US and MRI provided similar information with respect to carotidynia positive diagnosis and evolution [8]. However, US and MRI follow-up explorations were conducted at 8 weeks, a long time after clinical recovery. This precluded from establishing a close correlation between resolution of clinical, US and MRI signs. On the contrary, our comparative imaging follow-up was performed at 3 weeks, just after full recovery of clinical symptomatology. It suggests that both US and MRI imaging and clinical evolution are closely correlated. Indeed, as soon as day 7, we were able to witness a partial regression of carotid hypoechoic

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