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Radiology in Focus

Focal myositis of the neck with idiopathic orbital myositis

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Abstract
Focal myositis (of Heffner) in the right trapezius and paraspinal muscles accompanied by a pseudotumour of the left orbit has not been reported previously. The clinical, pathological and radiological features of these unusual benign pseudotumours of the head and neck are discussed. Computerized tomography (CT) scan of the neck and orbital ultrasound were suggestive of an inflammatory process without an abscess formation. This was followed by fine needle aspiration cytology (FNAC), which confirmed the diagnosis. The patient was treated with intravenous steroids and antibiotics, that led to complete resolution of symptoms, and there was no recurrence at six months follow-up. This report highlights the importance of imaging in inflammatory neck swellings.

Key words: Myositis; Neck; Orbit

Introduction

Focal myositis, a benign inflammatory pseudotumour of skeletal muscle, was first described as a clinicopathological entity by Heffner.[1] The disease can affect both children and adults between 10 and 67 years of age usually affecting the muscles of the lower limbs. There are reports of focal myositis involving the muscles of the head and neck, including the muscles of the tongue[2] and the temporalis muscles.[3] Shapiro and Isaacson[4,5] have reported focal myositis in the sternomastoid in children. Our patient developed a left orbital myositis simultaneously in addition to focal myositis of the right neck muscles. The objective of the present case report is to highlight this unusual presentation and the role of imaging and FNAC in helping to resolve the diagnostic dilemma.

Case report

A 45-year-old lady presented with a painful, progressively increasing, right-sided neck swelling of three days duration. She also presented with a unilateral left painful red eye of two days' duration (Figure 1). She gave a history of a preceding flu-like illness for the past four days associated with nausea and headache. She denied any previous history of trauma, ENT or dental problems.

On clinical examination she had an erythematous, tender, diffuse swelling over the right side of the neck and torticollis. The left eye had 2 mm of proptosis with diffuse conjunctival congestion. The extraocular movements were restricted in all positions of gaze resulting in troublesome diplopia. The rest of the head and neck examination including flexible laryngoscopy was normal. She had no other systemic abnormality.

Fig. 1
Picture showing inflammatory right-sided neck swelling with proptosis and congestion of the left eye.

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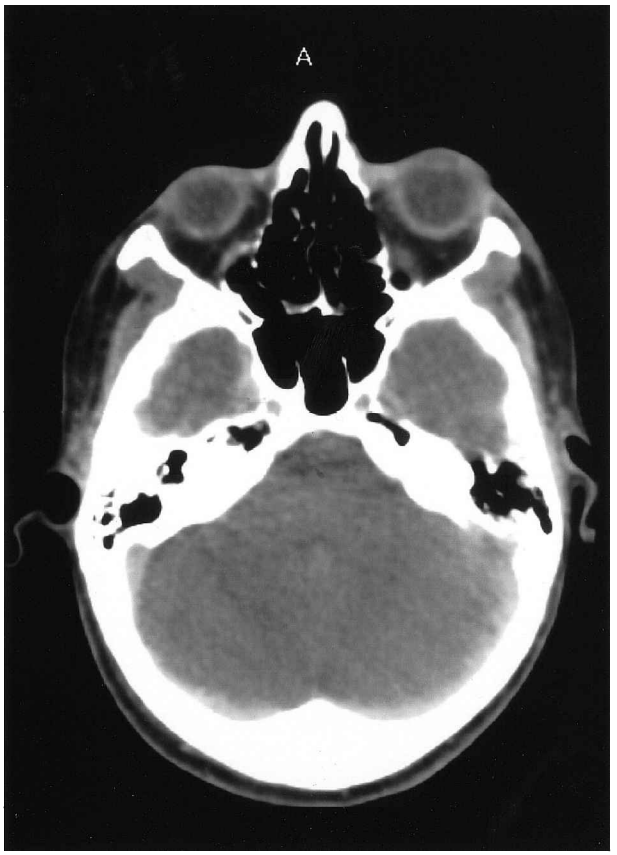

FIG. 2
Transaxial CT slice through the orbits demonstrating left eye proptosis and conjunctival congestion.

Blood tests showed a raised C-reactive protein (CRP) (254) and erythrocyte sedimentation rate (ESR) (99) and the neutrophil count was also increased. Urea, electrolytes, liver function and thyroid function tests were normal. Monospot test, rheumatoid factor, blood and urine cultures, serum angiotensin-converting enzyme, direct Coomb's test, toxoplasma screen and a full autoimmune screen including ANCA were all negative.

X-ray lateral view of the neck was normal. CT scans of the neck revealed the mass to be a diffuse soft tissue swelling on the right side of the neck involving the paraspinal muscles with separation of the muscle planes but with no abscess formation. There was involvement of the skin and subcutaneous fat. The report concluded that the swelling was probably inflammatory in origin (Figure 2). CT of the orbits revealed proptosis (Figure 3) with mild stretching of the optic nerve, tenting of the optic disc and conjunctival congestion. B-scan ultrasonography showed enlarged superior and inferior rectus muscles in the left orbit. There was no evidence of cavernous sinus thrombosis or any other intracranial abnormality. The diagnosis of idiopathic inflammatory orbital myositis was considered.

On FNAC from the neck mass, a serous, brown fluid was aspirated. Cytopathology showed inflammatory cells including neutrophils, polymorphs and macrophages and no malignant cells were seen, confirming the diagnosis of inflammatory myositis of the neck muscles.

The lady was treated with intravenous antibiotics and steroids. CRP dropped from 254 to 24 and the ESR decreased as well after four days of treatment. There was a marked clinical response, with the symptoms of pain and diplopia resolving four days after initiation of therapy. The neck swelling gradually reduced in size and she was discharged after a week on a tapering dose of oral prednisolone.

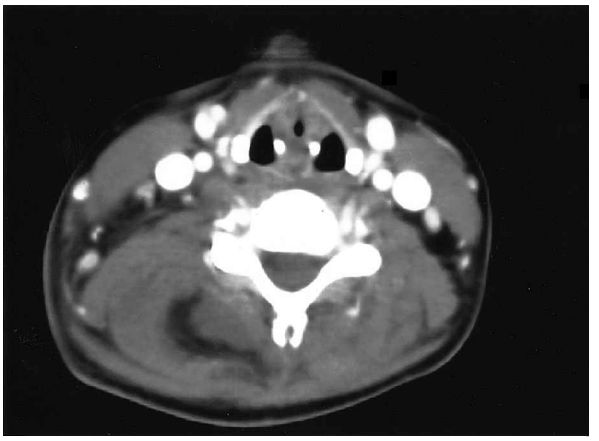

FIG. 3
Transaxial CT slice through the neck below the level of hyoid bone demonstrating involvement of right paraspinal muscles, subcutaneous fat and skin.

A final diagnosis of inflammatory myositis of the neck with orbital myositis was made. During her follow-up visit to the ENT clinic six weeks later the neck swelling had cleared and the neck was normal on palpation. Her ophthalmic symptoms had also completely resolved.

Discussion

Focal myositis, apart from its rarity, is an interesting clinical and pathological entity. The clinical presentation and appearance is that of a malignant neoplasm of the muscle, but it has a completely benign clinical course. It presents as a rapidly enlarging intramuscular mass with no history of trauma. The diagnosis is made on cytological or histopathological examination but is helped by optimum imaging. The aetiology remains unclear, but a study in 1980[6] suggested that a denervating process might play an important role. The alternative suggestion of a viral aetiology is as yet unproven.[7]

The concurrent presentation of myositis of the neck with orbital myositis has not been reported previously. Idiopathic orbital myositis is a specific clinical entity affecting extraocular muscles, where immune-mediated inflammation is thought to play a predominant role.[8] It usually occurs in isolation in healthy young adults and shows dramatic improvement to steroid therapy. Fifty per cent of the cases are known to be recurrent and could be refractory to immunosuppressive therapy.[9] A rare association with giant cell myocarditis and intracranial extension has been noticed with orbital myositis.[10,11] We report an unusual case where idiopathic orbital myositis was associated with inflammatory myositis of the neck muscles and was highly responsive to corticosteroid therapy. This presentation in our case widens the clinical spectrum of idiopathic inflammatory myositis and highlights the concurrent pathology that could affect other striated skeletal muscle groups in association with extraocular muscles.

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