Another cause for acute carpal tunnel syndrome: tricyclic overdose

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INTRODUCTION

Carpal tunnel syndrome is a common condition. Acute presentations are less common but are important to diagnose early because of potential permanent median nerve damage. This is the first case of acute carpal tunnel syndrome being caused as a direct consequence of an idiosyncratic drug reaction to tricyclic anti-depressants.

Key words: Bullous lesions, carpal tunnel syndrome, tricyclic overdose

CASE REPORT

A 33-year-old female presented to the accident and emergency (A&E) department having taken an overdose of Amitriptyline 3 h previously. On admission, she had a decreased level of consciousness and soon after arrival, she had a grand mal convulsion. She remained cardiovascularly stable with sinus rhythm on ECG. General examination revealed blisters and erythematous lesions on her left hand (Fig. 1).

Her general condition improved over the following

3 days but her hand became more swollen with some further blistering developing on her face and chest (Fig. 2). There were no systemic signs of infection. Despite treatment with arm elevation and intravenous antibiotics, the hand became more painful and dense paraesthesia developed in the classical distribution of the median nerve. Vascularity of the digits was not compromised and there was no evidence of a forearm compartment syndrome. The diagnosis of acute carpal tunnel syndrome was made.

As no improvement occurred with conservative measures, a surgical exploration of the deep palmar space and carpal tunnel decompression was performed under general anaesthetic (Fig. 3). The carpal tunnel was very tense with marked tissue oedema but no evidence of pus.

She made an uneventful recovery and demonstrated improved finger mobility, with physiotherapy, prior to transfer for further psychiatric care. At review 5 weeks later, she had full sensation and function of the hand, but some hyper-pigmentation remained on her face and chest.

Fig. 1. The hand demonstrating tense bullae and held in the 'sick hand' position.

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Fig. 2. Lesions on the face.

DISCUSSION

Carpal tunnel syndrome was first described by Paget.¹ It has now become the 'most frequently diagnosed, best understood and easily treated entrapment neuropathy in medical practice'.² However, acute presentations are relatively rare. Well recognized causes of carpal tunnel syndrome include fractures and dislocations around the wrist. Rarer causes are following burns, infections, haemorrhage or even thrombosis of a persistent median artery. Whilst it is recognized that tricyclic anti-depressants along with other psychotropic drugs can cause bullous eruptions either as a fixed drug reaction or associated with overdose,³ the authors believe

that associated carpal tunnel syndrome, as demonstrated by this case, is previously unreported.

Blisters and bullae are characteristic features of certain drug induced syndromes. These include toxic epidermal necrolysis. Other causes include drug-induced coma when bullae tend to occur over areas of trauma.⁴ In this reported case, the distribution of facial lesions (just beside the nose) excluded pressure as the cause (Fig. 2). It has been suggested that these dermatological eruptions may be immunologically based and indeed antibodies with a high affinity for basal cell cytoplasm have been demonstrated in patients who have had drug induced reactions.⁵ These antibodies may provide a circumstantial explanation for both the facial lesions and the oedematous tissues found within the carpal tunnel in this case.

We recommend that clinicians are aware of the possibility of this diagnosis and treatment should include early carpal tunnel decompression, as delay increases the risk of irreversible neuropathy.

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Fig. 3. The carpal tunnel having been decompressed and revealing the oedematous tissues.