LETTER TO THE EDITOR

CASE REPORT — UPPER LIMB PAIN ATTRIBUTED TO REPEATED MANUAL PIPETTING

Introduction

Following Baker and Cooper's report in *Occupational Medicine*, Volume 48, No. 2, February 1998, of a female scientific officer complaining of upper limb pain due to repeated manual pipetting, and the paucity of these cases in the literature, I wish to report a similar and more protracted case.

Case report

A 34-year-old female analytical chemist in post for one year, presented in 1993 with a number of upper limb symptoms. These included right lateral elbow and wrist pain, of two weeks duration, for which repeated manual pipetting and use of tongs during an investigation into quantitation of trace levels of Desferal were blamed.

Clinical examination disclosed mild right lateral epicondylitis, a tender ECR tendon, with painful resisted supination and extension of the wrist.

Subsequent to this initial consultation, the patient attended the Occupational Health Department on a total of 36 occasions over three years. The symptoms complained of show frequent variation but at no time was there objective evidence of a significant upper limb disorder (inflammation, effusion or asymmetry).

The procedure which preceded the upper limb symptoms consisted of the extraction of analytes from plasma and urine involving 1 ml manual pipetting in a fume cupboard, at arm’s length. In all, the investigation went on for six weeks and the discomfort was not relieved by a three week holiday or subsequently by being excluded from repetitive analytical procedures for three years.

She had a number of periods off work with increasing pain, over the subsequent years, despite long periods of rest, anti-inflammatories and a variety of other treatments.

She was referred, initially, (after 10 weeks of pain) to a Rheumatologist who commented 'It is difficult to know how to interpret these findings. It sounds like post-traumatic flexor tenosynovitis but I was unable to ilicit crepitus'. She received cortisone injection around the flexor tendons and wore a splint, without any benefit. At a second consultation with the Rheumatologist, the question of synovitis was raised but full blood count, ESR and RF were negative. The Rheumatologist suggested a referral to a Consultant Hand Surgeon and this was arranged.

The Hand Surgeon diagnosed subacute flexor tenosynovitis of the wrist and hands and radial nerve compression at the elbow. Rest, physiotherapy and anti-inflammatories were recommended. His report goes into four pages of closely typed A4.

Eighteen months later, after prolonged courses of physiotherapy and anti-inflammatories, still on light duties she demonstrated diminished grip strength as well as diminished extension and flexion strength of the thumb. By now there was also a painful arc of extension of the right shoulder and tenderness over the 'snuff box' at the wrist. A further rheumatological opinion was sought and a diagnosis of continuing tenosynovitis of the extensor of tendons of the hand was made. Further anti-inflammatories were prescribed.

At follow-up, the Rheumatologist suggested referral to a second Hand Surgeon at a different hospital. This was, likewise, arranged.

The second Hand Surgeon reported, 'Obviously this lady has a difficult problem to untangle. I am extremely reluctant to label any patient as having "RSI". I have no doubt that her symptoms are genuine and her examination suggests that the problem is most likely due to radial nerve compression in the proximal forearm. It is possible that in the past she has had some distal symptoms due to tenosynovitis but these appear to be quiescent and her examination suggests she is more likely to have the intersection syndrome rather than DeQuervain's Tenosynovitis'.

Exploration of the forearm was suggested and nearly two years after presentation, a posterior interosseous nerve decompression was performed.

Two and a half years after the patient presented, the employing company received a letter from her solicitor informing them of her intention to sue them for a work related upper limb disorder.

Following a request for a written opinion on the cause of the patient's condition, the second Hand Surgeon produced a tariff of charges for legal reports but a subsequent change of heart commenting 'However, in view of all that has been said, and the degree to which the whole issue seems confused, I would rather not prepare this report but would suggest that a report by another surgeon be done'.

In order to try to clarify matters, the third Hand Surgeon was contacted and a full objective assessment prepared. This runs into 12 sides of A4, the final paragraph of which comments, 'In my examination of this lady I found no objective clinical sign of physical disease. Her symptoms, signs and history are conflict-

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ing and inconsistent. It is difficult to accept that she has ever had tenosynovitis and there is no evidence of a nerve condition in the form of nerve conduction studies to confirm that the pre-operative diagnosis was correct. I am not aware of any evidence that this condition, if it was present, is caused by work as distinct from present in someone who happens to work. The diagnoses of various doctors seem to vary. The elbow has been more important to some, the wrist to others. If any of these diagnoses were correct, the treatment was appropriate but seems to have had no benefit. There are undoubted inconsistencies in the work and personal history. In my opinion, I have just examined a woman with two normal upper limbs. I believe her perception of the problem has been distorted'.

This report prompted a three page reply from the patient and further correspondence.

Coming up to date there have been 20 further pages of correspondence between the solicitors appointed by the patient and those by the company. The patient subsequently ceased attending the Occupational Health Department and continues working in a restricted capacity.

Discussion

This case demonstrates that pipetting or repeated use of laboratory equipment, e.g., tongs, forceps, etc. can lead to upper limb symptoms. It also demonstrates that symptoms and signs can be conflicting and complicated and that even appropriate therapy offered at great expense by a caring employer may not produce resolution of these symptoms.

During the frequent consultations between the chemist and the staff of the Occupational Health Department, which pre-dated and followed the onset of symptoms, a variety of suspicions were raised amongst the attending nurses and doctors. There were a number of pre-existing historical features as well as ongoing clinical signs of depression. On direct questioning however the patient became very defensive and suspicious insisting that her personal problems were not the business of the Occupational Health Department and therefore she was unwilling to discuss them further. Even careful questioning and sympathetic approaches by different members of staff were rejected.

This case illustrates how complicated and difficult to manage some cases of chronic upper limb pain can be. Even a well-motivated and sympathetic Occupational Health Department, given the full support of its employer, may find patients reject help particularly when litigation is contemplated.

Specialists' opinions and court decisions are frequently contradictory. The expensive and protracted input of specialist and expert opinion, in this case, led to professional disagreement, surgery and no objective clinical improvement in the patient's complaint.

In the three years prior to this patient's problems presenting and becoming common knowledge on site, there were two cases reported to the Occupational Health Department of 'RSI' or 'WRULD'. In the three years subsequent to presentation, we have seen approximately one to two per month.

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