CASE REPORT

Isolated dislocation of the trapezium

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INTRODUCTION

Isolated dislocation of the trapezium due to indirect trauma is a rare event, particularly in the absence of direct or compound trauma, with or without fractures of the surrounding bones. One case of such an isolated dislocation is described, in which closed reduction was successful, allowing early return to full mobility and normal function.

CASE REPORT

A 31-year-old housewife attended the Accident and Emergency Department of the Mater Infirmorum Hospital, Belfast, Northern Ireland, having fallen and injured her left wrist. She had fallen backwards onto her outstretched hand, forcing the wrist into considerable dorsi-flexion with the forearm in supination. Examination revealed bruising and swelling at the base of the first metacarpal and over the thenar eminence. Movements of the thumb were painful. X-rays (Fig. 1) showed that the trapezium had been completely dislocated in a palmar direction. No fracture of surrounding bones had occurred.

On the following morning closed reduction was carried out successfully, with the aid of an image intensifier. The hand and forearm were immobilized in a Bennet's type plaster cast which was removed after 6 weeks.

Initially, movements of the thumb were somewhat stiff but the situation improved rapidly, and she was able to be discharged with a full range of pain-free movement and no continuing disability a few weeks later.

Fig. 1(a) X-rays showed that the trapezium had been completely dislocated in a palmar direction.

Fig. 1(b) No fracture of surrounding bones had occurred.

DISCUSSION

Dislocation of the trapezium is a rare event, only a few cases having been described in recent medical literature. Peterson (1950) reported 10 cases, but only two of these were regarded as complete dislocation of the trapezium itself. Further cases have been reported subsequently (Goldberg, 1981; Vente & De Ruiter, 1983; Brewwood, 1985). However, most reported cases involved direct trauma, many requiring open reduction and, in three cases, the trapezium itself was excised (Goldberg, 1981; Peterson, 1950). Only one previously reported case involved indirect trauma due to a fall in which closed reduction was successful (Vente & De Ruiter, 1983).

Goldberg suggests that the ligaments attaching the trapezium to the surrounding carpal bones are strong but those ligaments on the volar or palmar aspect of the bone are weaker than on the dorsal aspect, therefore, dislocation is usually in a volar direction when the wrist is forcibly dorsi-flexed and forearm supinated. This was the mechanism of injury in the case described above. In this case, early diagnosis and treatment within 24 h was successful, whereas a delay of 3 days in diagnosis and treatment in Goldberg's case rendered closed reduction impossible.

The authors wish to emphasize the rarity of this injury, the typical mechanism of closed injury and the fact that delay in diagnosis or treatment may well render closed reduction impossible, thus necessitating open reduction leading to the possibility of significant functional problems thereafter.

REFERENCES

- Brewwood A. F. M. (1985) Complete dislocation of the trapezium: a case report. *Injury* **16**, 303–304.
- Goldberg I., Amit S. & Bahar A. (1981) Complete dislocation of the trapezium (multangulum majus). *Journal of Hand Surgery* **6**, 193–195.
- Peterson C. L. (1950) Dislocation of the multangulum majus or trapezium and its treatment in two cases with extirpation. *Archivum Chirurgicum Neerlandicum* **2**, 369.
- Vente J. P. & De Ruiter K. (1983) Complete dislocation of the trapezium multangulum majus. *Netherlands Journal of Surgery* **35**, 33–35.