CASE REPORTS

Dislocation of the scaphoid

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DISLOCATION of the scaphoid is a rare injury of which only a few reports of its occurrence appear in the literature. These include Higgs (1930), two cases; Buzby (1934); Kuth (1939); Wood-Walker (1943); Schlossbach (1954) and Connell & Dyson (1955), all reporting single cases.

Russell (1949), in a review of intercarpal dislocations and fracture dislocations reported only one case of dislocation of the scaphoid.

Thompson, Campbell & Arnold (1964) discussed nine cases of primary and secondary dislocations of the scaphoid, the majority being secondary dislocations.

Two further cases are presented, and a possible mechanism for its production discussed.

Case 1

Male, Age 20, was a passenger in a car which came off the road; he was flung out of the car, sustaining multiple lacerations to the face and injury to the left wrist.

Examination of the wrist showed swelling and tenderness at the base of the thenar eminence, together with a deficiency in the anatomical snuff box. X-ray of the left wrist showed the scaphoid to be dislocated anteriorly and rotated through 90° in its longitudinal axis. There was also a fracture of the hamate (Fig. 1). Under general anaesthesia the dislocation was easily reduced by pulling the wrist into ulnar deviation, and with firm pressure over the scaphoid, pressing backwards and radially, the scaphoid snapped into place. The wrist was immobilised in a scaphoid plaster for 5 weeks. Eight weeks after the accident he returned to work as a bricklayer's labourer. Five months later he remained symptom-free. Examination showed full movement of the wrist and a normal grip.

X-ray: There was no evidence of avascular necrosis (Fig. 2).

Case 2

Male, Age 48. This man was the driver of a motor-cycle which collided with a fallen tree in the dark, as a result of which he sustained an injury to his right ankle and left wrist. X-ray of the left wrist showed that the scaphoid was dislocated laterally, the proximal pole being hooked over the radial styloid, the gap between the lunate and scaphoid being occupied by the capitate (Fig. 3). Reduction was carried out under general anaesthesia without difficulty (Fig. 4). A scaphoid plaster was worn for 5 weeks. Progress was satisfactory. Nine weeks after the accident he returned to work as a heavy labourer. Four years later he was seen for review. He had continued his work as a heavy labourer and had no symptoms.

Examination revealed no abnormality of the wrist.

X-ray showed the density of the scaphoid to be normal. There was no evidence of degenerative changes.

Comment

In the above two cases of dislocation of the scaphoid, the exact mechanism of the dislocation could not be determined. Connell & Dyson (1955), in reporting a dislocation of the scaphoid, observed that in most cases, including their own (a man riding a cycle that collided with another), the injury occurred when the hand was gripping something in ulnar deviation. In other cases, a street-car driver holding a knob control (Kuth, 1939); a motor cyclist (Russell, 1949); two further motor cyclists (Higgs, 1930); accident while driving a car (Buzby, 1934), all sustained a forced ulnar deviation of the wrist. Case 2 reported here was also a motor cyclist.

In all of the above the scaphoid was dislocated laterally or postero-laterally.

If the hand is forced into violent ulnar deviation the radial side of the wrist will open up and the carpal

FIG. 1. Case 1. Radiograph of the left wrist, shows the scaphoid dislocated anteriorly and a fracture of the hamate.

FIG. 2. Case 1. Radiograph of the left wrist, 5 months after the dislocation—no evidence of avascular necrosis.

FIG. 3. Case 2. Radiograph of the left wrist, showing lateral dislocation of the scaphoid, the gap between the lunate and scaphoid being occupied by the capitate.

FIG. 4. Case 2. Radiograph of the left wrist, 4 years after dislocation of the scaphoid.

bones shift radially. If there has been ligamentous damage laterally, instead of the scaphoid resuming its normal position, the proximal pole becomes hooked round the radial styloid, thus producing a lateral or postero-lateral dislocation. This sequence of events is easily visualized in a motor-cycle driver when one side of the handle-bar is struck by an on-

coming vehicle, or when it strikes a stationary object. That side of the handle-bar, with the hand gripping it tightly, is forced towards the driver and across his mid-line, the wrist being forced into violent ulnar deviation.

No other case of anterior dislocation as seen in Case 1 could be found in the literature.

The blood supply to the scaphoid consists of three main groups of vessels, the laterovolar, dorsal and the distal (Taleisnik & Kelly, 1966). These vessels originate at separate levels from the radial artery or from the radial artery and its superficial palmar branch, and after a short trajectory penetrate the scaphoid at the level of the waist and the tubercle. This arrangement of blood vessels, plus the fact that the scaphoid normally enjoys a considerable range of movement, probably explains the absence of apparent damage to the blood supply of the scaphoid, following its dislocation and closed reduction.

Conclusion

Two cases of traumatic dislocation of the scaphoid are described. In both cases closed reduction was carried out with success within a few hours of injury. In both cases full function was rapidly restored with no evidence of avascular change. If, as in some reported cases, there is delayed diagnosis, closed manipulation may not be successful, and operative reduction has to be carried out. Some of these cases were complicated by avascular changes in the scaphoid.

Acknowledgment

I would like to thank Mr G. P. Arden for permission to publish these cases and for his helpful criticism.

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Renal agenesis, oligohydramnios and diabetes mellitus

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THE ASSOCIATION of foetal renal agenesis and oligohydramnios is well recognized. At least 250 cases of renal agenesis have now been reported and in the majority there seems to have been a deficiency or absence of liquor (Bardram, 1930; Bates, 1933; Weber & Israel, 1958; Bain & Scott, 1960; Potter, 1965).

An association with maternal diabetes mellitus is not mentioned in these reports. Two such cases are, therefore, considered worth reporting.

Case 1

The mother, a 24-year-old English woman, has been a known diabetic since the age of 7. After trying to conceive for 5 years her first pregnancy in 1965 resulted in a fresh stillbirth, weight 10 lb 5 oz at 38

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weeks' gestation. At post mortem no congenital abnormalities were detected.

She was first seen at the Canadian Red Cross Hospital on the 7 September 1966 in the 14th week of her second pregnancy. During early pregnancy her diabetic control seems to have been satisfactory with an insulin requirement of 24 units of soluble insulin plus 8 units NPH in the morning and 20 units soluble insulin plus 8 units NPH in the evening.

Throughout the ante-natal period it was noted that the uterus was persistently small for the period of gestation. Foetal movements were first felt at 23 weeks by dates, 20 weeks by size. From the 28th week there was mild elevation of blood pressure, reaching a maximum of 140/90 mmHg at 32 weeks. The insulin requirement gradually increased and by the 34th week she was having 32 units of soluble