compensate sufficiently rapidly for the sudden increase in peripheral resistance.

Most of the haemorrhages in this study were of grade II severity, which is considered not to be associated with long-term sequelae. It must be emphasised that clinical practice should not be altered on the basis of a single study with small numbers of patients. However, the findings of this study are sufficiently striking to warrant further investigation of the hypothesis proposed.

REFERENCES

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Summary

Over a 2-year period, 23 cases of anterior dislocation of the shoulder were managed by the hanging method, combined with a supraclavicular block. Reduction was easily accomplished in all but 2 of these cases. The technique is described.

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Reduction of shoulder dislocations by the hanging method

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Patients and methods

Between May 1984 and May 1986 25 patients with anterior dislocations of the shoulder were seen in the outpatient department of Benedictine Hospital. Their ages ranged from 17 years to about 70 years, the majority being under 40 years. Most of the injuries were caused by falls onto the arm, many while playing soccer. Two of the dislocations were thought to be caused by a direct blow to the shoulder when falling from a height, and one dislocation with a four-part fracture of the proximal humerus occurred in a heavily built man during a fall associated with an epileptic fit. Only 2 patients gave a history of previous dislocation, in 1 a reduction attempted, and 1 was months old and was treated conservatively from the outset. Two cases were associated with fractures of the greater tuberosity.

Most orthopaedic surgeons are acquainted with the hanging method for reduction of anterior dislocations of the shoulder, but few junior doctors seem to be aware of it, being more familiar with the Kocher and Hippocratic methods. The hanging method of reduction combined with a supraclavicular brachial block was taught to a number of doctors in a rural hospital and is now the routine method of reduction.
to hang vertically downwards at the side of the bed. The patient was then observed and usually some anaesthesia would be evident within a few minutes. After approximately 20 minutes the shoulder was re-examined, and a few cases would have already reduced and the remainder were easily reduced by gently pulling the arm down using the hand and thumb on the lower end of the humerus and the other hand on the chest wall across the axillary folds to act simply as a soft fulcrum. The reduction was occasionally performed inadvertently while checking the bony contour to see if spontaneous reduction had already occurred. A feature of this method is that the whole procedure reduces very gently and often it is difficult to appreciate that the joint has reduced.

The reduced shoulder was then immobilised by a broad arm sling covered by a body bandage made of strips of Elastoplast holding the arm to the trunk. Post-reduction radiographs were taken and the patient was kept overnight either in the outpatients department or admitted to the ward, and discharged the following day after further assessment of the body contour and the neurology of the arm.

Results

Twenty-one out of 23 dislocations in which a block and reduction were attempted, reduced easily by the hanging method, and these included 2 cases with fractures of the greater tuberosity and 2 cases which presented after 24 hours. One shoulder that was reduced, re-dislocated a few minutes later while the limb was still under the paralysing effect of the block. This was easily reduced a second time, again by the same method.

Two cases could not be reduced by the hanging method despite adequate blocks. Both patients were elderly women; the first dislocation was thought to be many weeks old and could not be reduced by any closed method, and so was treated conservatively. The second case could not be reduced by the hanging or the Hippocratic methods but was eventually reduced by Kocher's manoeuvre. Two further dislocations were seen, but closed reduction was not attempted. One was associated with a four-part fracture of the proximal humerus, and open reduction and internal fixation were performed, and the second was a months-old dislocation in an elderly man.

Follow-up of patients in this environment is difficult. The planned management was to immobilise the elderly patients for only 1 week. A number of patients never returned at all, the older patients usually came at 1 week to be relieved of their strapping, but were seldom seen again, and the younger men would often return at 3 weeks having removed the strapping themselves and demonstrated a good range of shoulder movements.

Discussion

Anterior dislocations of the shoulder are usually reduced by the Kocher or Hippocratic methods, although there are many variations of these two methods of leverage and traction, and Hippocrates himself described 5 methods of reduction. Kocher's method is, however, falling into some disrepute, largely inexperienced doctors in a rural hospital.

The hanging method was originally described by Stimson of New York and is often called Stimson's method. A modification of this method is to add a weight to the wrist to increase the traction force. However, we have not found this necessary when good pain relief and muscle relaxation are obtained with a supraclavicular block. If a hospital's practice is to reduce dislocations under general anaesthesia then this method of hanging, with a 2 kg weight attached to the wrist, is certainly worth trying while waiting for an anaesthetic. Muscle relaxation can be enhanced by a dose of narcotic.

All the supraclavicular brachial blocks were adequate to achieve a reduction or, in the 2 cases that would not reduce by hanging, to produce an anaesthetised, flaccid limb. It is not perceived that all the blocks produced a totally paralysed and anaesthetised arm because previous experience with the block and the same group of doctors gave a 12% block failure rate for a variety of upper limb procedures. However, total limb anaesthesia is not required for a reduction since occasionally a reduction of an acute dislocation can be achieved under minimal sedation, and a block of suprascapular nerve alone affecting only the two spinatus muscles and part of the joint capsule has been shown to be adequate for shoulder reduction.

The only problem that could be attributed to the supraclavicular brachial block was the case of redislocation shortly after reduction. This emphasises the need for the doctor carefully to supervise the immobilisation of the arm with a broad arm sling and body bandage, and the need for the bandaging to be retained at least until the block was worn off.

Only 2 cases of dislocation did not reduce by the hanging method, 1 of these was an old injury and could not be reduced by any method, and 1 was reduced by Kocher's method. It is thought that this was also an old dislocation—the patient was elderly and could not date the injury accurately. Old dislocations are associated with muscle and soft-tissue contractures and De Palma recommends various manoeuvres to free the old dislocated head, before reduction is attempted by Kocher's method. It may well be that the failed attempts at reduction by hanging and the Hippocratic method acted to loosen the head before the successful reduction.

Only 1 case of axillary nerve damage was detected, and that was in the patient with the four-part fracture dislocation who eventually had to have open reduction and internal fixation. This low proportion of nerve damage may well reflect the difficulties of diagnosis using an interpreter, and also the poor follow-up attendance at which a deltoid paralysis would be evident.

The hanging method for reduction of anterior dislocations of the shoulder has been used successfully by a group of largely inexperienced doctors in a rural hospital. It effects a gentle, atraumatic reduction and deserves wider appreciation.

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