Pulled elbow

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SUMMARY. Pulled elbow (distal subluxation of the radial head) is a common, painful condition in young children. Although it has been well documented it is often missed, often mistreated, and generally over-investigated. Treatment is simple and effective. Without treatment the condition can continue for several days.

Introduction

PULLED elbow has received definitive treatment by Illingworth (1975) and gets an admirably succinct account in *The Casualty Officer's Handbook* (Ellis, 1970). In spite of this it is often unfamiliar to junior staff of accident and emergency departments, knowledgeable registrars, and orthopaedic consultants alike.

The condition is painful for the child, and a source of guilt and anxiety to the parent who has usually caused it. It is remarkably easy to treat.

Diagnosis

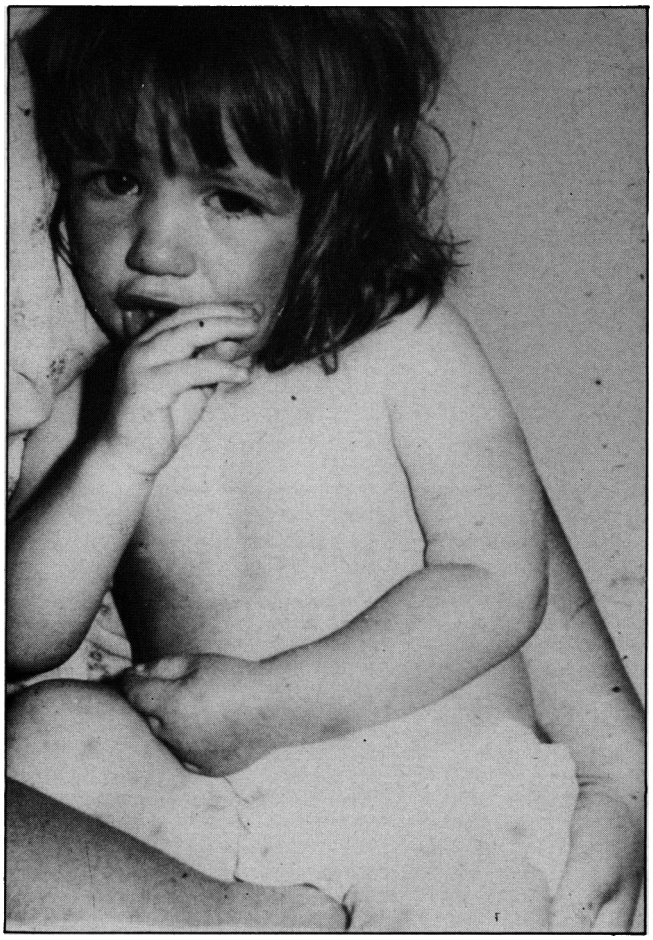
The child is presented with a sad face and holding the disused forearm in combined partial pronation and flexion across the lower part of the trunk (Figure 1). Pain may be absent with the arm at rest. There is no swelling or bruising. A careful history (sometimes reluctantly given) should always support the clinical observations, unless the accident has been caused by the child alone—which is rare—or by another child who may be unable or unwilling to communicate the events leading up to the injury. I am loath to make the diagnosis without either a clear history or strongly suggestive circumstantial evidence of a traction injury.

The commonest causes of traction injury are stumbling and falling when one hand is securely held by an adult or a larger child; being held by both hands and swung round and round in play; being lifted from the ground by one arm; and lastly grabbing or pulling at a fixed object such as the side of a cot or banister in order to prevent a fall. The latter can happen when the child is alone and taxes the historian most. I have met one child with a recurrent subluxation which once occurred spontaneously.

There is often tenderness over the radial head and full supination is prevented by pain. Pain may be referred to the inferior radioulnar joint or, occasionally, to the shoulder. There is no swelling. The natural history is of spontaneous cure, often during sleep, but this may take several unhappy days to achieve.

Diagnosis is finally clinched by successful treatment. However, if the simple manipulation is adequately

Figure 1. *The presenting pose.*



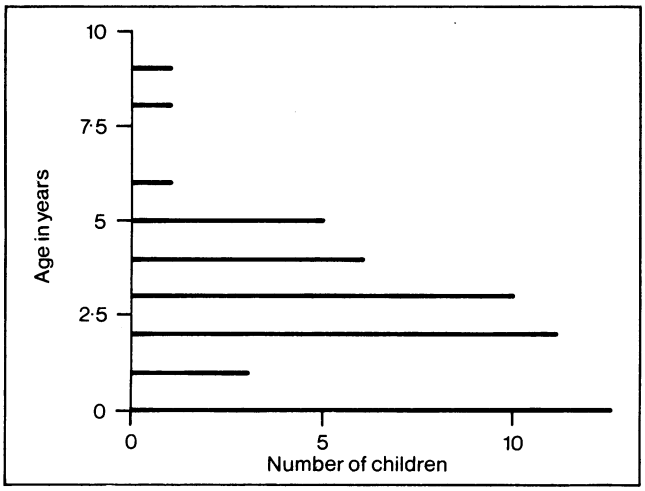


Figure 2. *Age at presentation of 38 children with pulled elbow.*

performed and fails to relieve the pain entirely and restore full movement to the arm within half an hour (usually within five minutes), the diagnosis should be suspect and further enquiry made.

Once a sound clinical diagnosis has been made, treatment should be carried out without resort to radiography.

Pathology

The exact mechanism of the injury is not known. Radiographs taken in identical projections before and after reduction superimpose precisely. There is no visible evidence of displacement. The clinical and historical evidence of subluxation in some direction—presumably distally—is, however, paramount.

Frequency

In a large rural area where country people are sturdy and uncomplaining and have to travel up to 80 miles to hospital, there is little temptation to seek advice for minor complaints.

In this average-sized accident and emergency department over a 12-month period, from 1 October 1974 to 1 October 1975, 38 cases of pulled elbow were treated. Thus, the condition has to be accepted as a fairly common cause of significant symptoms. The age distribution of the children (17 boys and 21 girls) is shown in Figure 2.

Treatment

Treatment is a combination of quick, firm pronation of the forearm, and axial compression. The manipulation

Figure 3. *The reduction.*

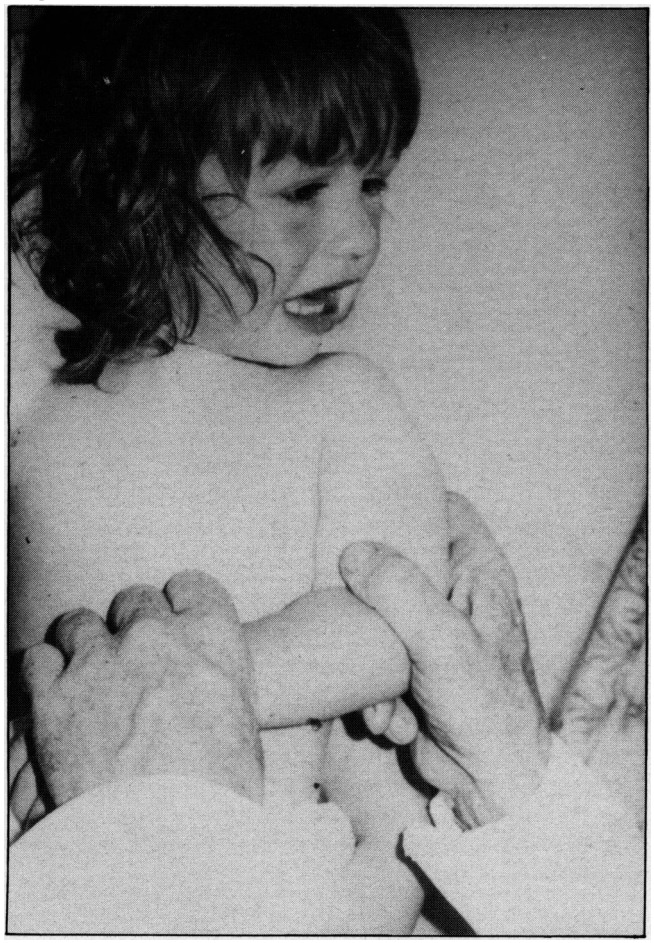
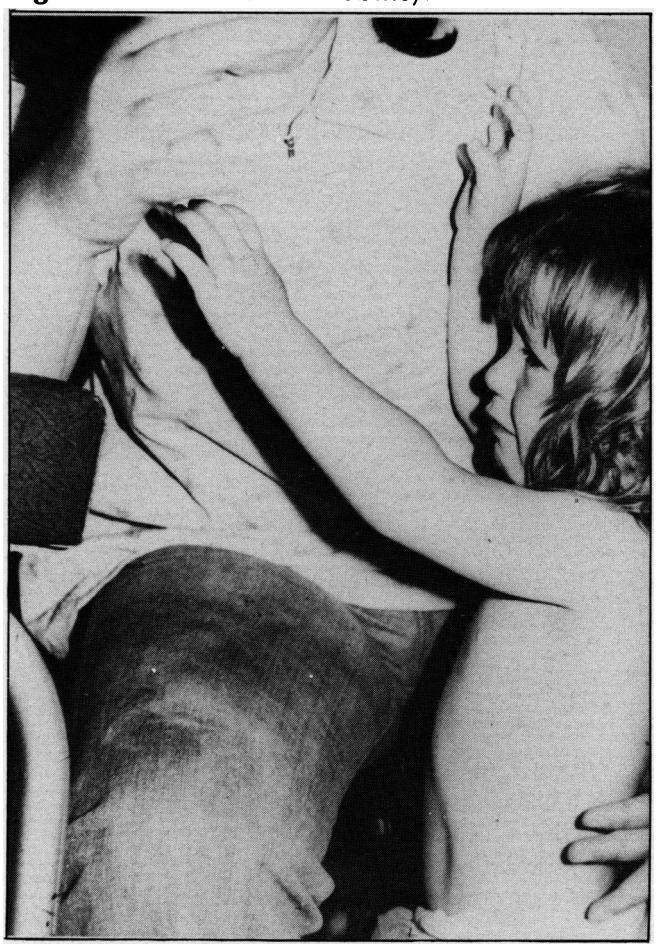


Figure 4. *Restoration of mobility.*



must be done quickly before the child can resist (Figure 3). By placing a thumb on the radial head the click of reduction can be felt. The child gives a short cry and in nearly all cases moves the arm freely and without pain within a quarter of an hour (Figure 4).

In cases where the elbow has been displaced for more than 24 hours, discomfort may persist for an hour or two, although supination is restored, but review the following day shows all to be well and recovery complete.

No anaesthesia is required for the manipulation, and the smiles on the faces of the patient, parent, and the manipulator bear eloquent witness to the satisfaction felt by all parties.

References:

Ellis, M. (1970). *The Casualty Officer's Handbook*. London: Butterworth.

Illingworth, C. M. (1975). *British Medical Journal*, 2, 672-674.

Acknowledgements

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