

PULLED ELBOW

by Dr Elliot Murray

Presentation

The presentation is that of an unhappy toddler or young child with a painful or "paralysed" arm which is typically held partially flexed across the lower trunk with the forearm held in partial pronation.

The child cannot or will not speak and is petrified of being further injured. The elbow is neither bruised nor swollen and the child will not use the arm and there is not the deformity of a supracondylar fracture.

There is usually no pain while the arm is undisturbed but there will be tenderness over the radial

head. Flexion and extension are painfree, but the child resists any rotation of the elbow.

Almost as part of the examination the reduction is performed.

In the case of the injury being on the left arm the thumb of the right hand is placed over the radial head while the left hand gently grasps the wrist and tries to supinate the wrist. This is resisted because of pain both physically and verbally.

The wrist is then forced over into pronation and the diagnosis is clinched and treatment effected when a loud click is appreciated by the right thumb.



2) Pulled elbow reduction

This is a typical General Practitioner type condition which was not taught to me or my contemporaries at medical school as it belongs to the 99 per cent of cases which do not end up in a teaching hospital.

It is a trivial condition — trivial to those who know about it — but very painful to the child and worrying to the parents. It is a self limiting condition which eventually reduces itself spontaneously.

I was introduced to the condition when as a medical student I was playing with my son and pulled on his extended arm, hurting his elbow.

A more typical story is that of the young child aged 16 months to four years being led along by

an adult; the child stumbles and is prevented from falling by being lifted by his upstretched arm. Any forced pull on an outstretched arm can do the damage.

The history is very often not obtained if a servant or older child is involved in the incident. The child itself may cause the traction injury by grabbing hold of a fixed object to prevent himself from falling.

The diagnosis is confirmed by the child using his arm again within 15 to 30 minutes. A collar and cuff is recommended to be worn for a few days but when one sees the perfectly normal arm the next day you will, like me, give up using it.

ABOUT THE AUTHOR

Born and educated in Durban. B.Sc. in civil engineering Univ. Natal 1953. Married 1954.

Started medicine Univ. Cape Town 1956. After a house job at Edendale Pietermaritzburg came to East London to general practice.

Felt the need for getting up to date and enrolled at Univ. Pretoria for M Prax Med.

Also got the MFGP in 1976. President Border Branch MASA, Vice-President National GP Group of MASA. Rotarian.



1) Pulled elbow pre-reduction



3) Pulled elbow post-reduction

The natural history

This is one of spontaneous reduction said to occur during sleep and often in the radiographer's hands when she positions the child's arm for radiotherapy unnecessarily requested.

Pathology

The exact mechanism of the injury is not known. Radiographs taken before and after reduction are said to superimpose exactly. It is thought that at this age the radial head is no greater in diameter than the shaft and that the radial head can then subluxate under the annular ligament.

Frequency

A guesstimate is that I see about four cases a year, but since

October I have been waiting for a case to photograph without success.

I arrived at my surgery on a Monday morning to find two of my patients mis-diagnosed and therefore not treated over the weekend by two different, very capable GPs.

R.H. Hardy reported 38 cases in a year at the Hereford General Hospital — described as 'an average-sized accident and emergency department'. His age distribution was one to nine years with a peak at two and a half years.

References: Hardy RH; Journal of the Royal College of General Practitioners 1978, 28, 224-226. Mitchell WJ Family Practice 1978.