SUMMARY

Displaced supracondylar fracture of the humerus is the commonest fracture that occurs in the region of the elbow in children and accounts for 80% of elbow injuries, though supracondylar fractures only account for 3% of paediatric fractures. They are commoner in boys than girls, the left elbow is affected more than the right.

The fracture is produced by a fall on outstretched arms with the elbow extended in the majority of the cases.

The fracture occurs through the relatively week portion of the lower end of the humerus between the condyles distally and the strong shaft of the humerus proximally. It may occur at any age from 3 to 12 years, with the greatest incidence between the ages of 5 and 8 years. There are three factors contributing to the predisposition of the juvenile humerus to a supracondylar fractures-ligamentous laxity, the relationship of the joint structures in hyperextension and the bony architecture of the supracondylar area.

The small distal fragment is displaced posteriorly and upwards with anterior angulation in 99% of the cases (extension type). It is also displaced medially with lateral angulation and medial rotation in 75% of the cases, and it is displaced laterally in 25% of the cases with medial angulation and lateral rotation.

The clinical diagnosis of the displaced supracondylar fractures is usually straightforward. The neurovascular state of the limb should be fully assessed.

The objectives of treatment are to restore full function of the elbow and to avoid the complications of Volkmann ischaemic contracture and cubitus varus deformity. The former complication is, fortunately, rare

but the latter is more common with an average incidence of 30%. Many different methods have been advocated to achieve these objectives, and the variety of therapeutic options described testifies to the difficulty of treating these fractures.

109 children presented with displaced supracondylar fracture of the humerus have been treated with one of the following methods:

1. Closed reduction and splinting in flexion
2. Closed reduction and splinting in extension
3. Closed reduction and percutaneous pinning
4. Overhead skeletal traction
5. Open reduction and percutaneous pinning.

The results of each method of treatment has been graded according to Innocenti's criteria.

The best results have been gained with the third and fourth methods of treatment (closed reduction and percutaneous pinning and overhead skeletal traction).

It is recommended to avoid any delay in the definitive treatment as this will affect the outcome of the result. Also it is essential to keep an eye on the Baumann's angle during the treatment as it gives accurate ideas about the carrying angle.

Obviously there is enthusiasm for every method of treatment and different techniques of each method and I believe that the best method of treatment is the one which suits every individual elbow and matches the available facilities and skills.