**SUPRACONDYLAR FRACTURES.**

**By Evans Nyakundi Lecturer KMTC KISII CAMPUS**

**They are among the commonest fractures in children. The distal fragment may be displaced either posteriorly or anteriorly.**

**Mechanism of injury.**

* **Usually a fall on the outstretched hand.**
* **95% of all cases causes posterior angulation or displacement [Hyperextension injury].**
* **The humerus breaks just above the condyles. The distal fragment is pushed backwards and (because the forearm is usually in pronation) twisted inwards. The jagged end of the proximal fragments pokes into the soft tissues anteriorly, sometimes injuring the brachial artery or median nerve**
* **Anterior displacement is rare; it is thought to be due to direct violence (e.g. a fall on the point of the elbow) with the joint in flexion.**

**Classification.**

 **Type I-------An undisplaced fracture.**

 **Type II------An angulated fracture with posterior cortex still in continuity.**

 **IIA----A less severe injury with the distal fragment merely angulated.**

 **IIB-----A severe injury, the fragment is both angulated and malrotated.**

 **TypeIII-------A completely displaced fracture. (although the posterior periosteum is usually preserved, which will assist surgical reduction).**

**Clinical features.**

* **Pain**
* **Swollen elbow joint**
* **Posterior displacement shows obvious S-deformity of the elbow.**
* **Abnormal bony landmarks.**
* **Inability to use the arm.**

**NOTE.**

**Feel the pulse and check the capillary return. Wrist and hand should be examined for evidence of nerve injury.**

**Diagnosis.**

**X-ray Lateral view.**

**Measurement of Baumann’s angle is useful in assessing the degree of medial angulation before and after reduction.**

**TREATMENT.**

**If there is even a suspicion of a fracture the elbow is gently splinted in 30 degrees of flexion to prevent movement and possible neurovascular injury the x-ray examination.**

**Type I: Undisplaced #**

 **Elbow is immobilized at 90 degrees and a neutral rotation in a light weight splint or cast and arm is supported by a sling. Check x-ray 5-7 days later to check if there is any displacement. Retain the splint for 3 weeks and supervised movement is allowed.**

**Type IIA: Posteriorly Angulated Fracture-Mild.**

 **Reduce # under local anaesthesia(LA).**

**Stepwise manoeuvre:**

 **1.Traction for 2-3days in the length of the arm with counter traction above the elbow.**

 **2.Correction of sideways tilt or shift and rotation (in comparison with the other arm).**

 **3.Gradual flexion of the elbow to 120 degrees and pronation of the forearm, while maintaining traction and exerting finger pressure behind the distal fragment to correct posterior tilt. Then fill the pulse and check capillary, immediately relax the amount of elbow flexion until it improves.**

**Do a check x-ray to confirm appropriate reduction?**

**Unstable fracture will require open reduction.**

**TYPES Band III: ANGULATED AND MALROTATED or POSTERIORLY DISPLACED.**

 **Severe swelling**

 **Often unstable**

**Difficult to reduce**

**High risks of neurovascular injury**

**Circulatory compromise due to swelling.**

**EMERGENCY OPRATION IN THEATRE.**

**Indications for operation:**

**1.Fracture which cannot be reduced closed.**

**2.An open fracture(COMPOUND).**

**3.Fracture associated with vascular damage.**

**CONTINOUS TRACTION.**

**Traction through a screw in the olecranon, with the arm held overhead can be used.**

**TREATMENT OF ANTERIORLY DISPLACED FRACTURE.**

 **This is a rare injury (less than 5% of supracondylar fractures).**

 **>Stable------reduction and a posterior slab is bandaged for 3 weeks.**

 **>Unstable------percutaneous pins are used.**

**COMPLICATIONS.**

**Early**

**1.Vascular injury---brachial artery**

**2.Nerve injury----Radial nerve, median nerve and ulna nerve.**

**3.Compartment syndrome.**

**Late.**

**1.Malunion**

**2.Elbow joint stiffness**

**3.Myositis ossificans—Rare but it can occur. Formation of bone tissue inside muscle after an injury.**