

Chapter 8

Complications of Fractures

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Complications: Children with these injuries usually have malunion of these fractures. These are divided in two types usually Early and late complications.

Early:

1) Vascular Injury- Brachial artery injury is most dangerous injury usually occurring in about 5% of cases. In these cases, peripheral ischaemia may be immediate and severe in nature producing oedema and impending compartment syndrome. The child usually have undue pain which needs urgent attention of surgeon. (pain on passive extension of fingers, an absent pulse, tense and tender forearm with reduced capillary return)

2) Nerve injury-These depends upon the displacement of distal fragments. Any of the forearm nerves (radial nerve, median nerve or ulnar nerve) may be involved. Anterior interosseous branch is commonly affected. But, fortunately there is temporary loss of function and recovery is expected in 3-4 weeks. The ulnar nerve is usually injured in careless K-wiring of fragments.

Late complications:

1) Malunion: This is the most common complication of these fractures. Although remodelling of fragments occurs in children, but uncorrected sideways tilt and rotation are most important. These produces permanent varus Or valgus deformities of elbow, which does not improve with growing age. Cubitus varus is disfiguring but not functionally. Cubitus valgus causes late ulnar nerve palsy. These can be treated by various supracondylar osteotomies.

1) MYOSITIS OSSIFICANS:

Heterotopic calcification in muscles, is usually occurred after an injury. It is thought to be due to muscle damage from injury, but can be seen without injury in unconscious Or paraplegic patients. This is mainly seen in elbow region Or blow to brachialis, deltoid, or quadriceps muscles. Patients usually presents as pain with local swelling and tenderness. X-rays are usually normal. Pain usually subsides in course of nature but joint movement is limited. On late presentation, there will be fluffy calcification in soft tissues and this is palpable as bony mass and clearly defined in X-rays.

The joint should be rested in functional position of function until pain subsides. Gentle active movements should be started to avoid stiffness. Indomethacin Or radiotherapy should be given to prevent recurrence.

2) SUDECK ATROPHY (COMPLEX REGIONAL PAIN SYNDROME):

This is a condition of regional osteoporosis which sometimes occurs after fractures of the extremities. This is also called as Sundecks atrophy Or post traumatic reflex sympathetic dystrophy. Its cause is uncertain in nature and hence it is termed as Complex regional pain syndrome. This is of two types:

1) A reflex sympathetic dystrophy that develops after an injury or noxious event

2) Causalgia that develops after a nerve injury

Patients usually complains of continuous pain usually burning in nature. There may be local swelling, redness, warmth and tenderness along with moderate stiffness of joint. On examination, skin is pale and atrophic with restriction of movements. Later on on patients develops fixed deformities. On X-rays there may be patchy rarefaction of the bone. The earliest the condition is diagnosed and treatment is started, better is the prognosis. Elevation and active exercises are of utmost importance. Adequate analgesia and anti inflammatory drugs are helpful. A prolonged and

dedicated physiotherapy along with drugs like amitriptyline, carbamazepine and gabapentin is mainstay of treatment.