PSEUDOTUMORAL PERIOSTEAL AND MUSCULAR OSSIFICATIONS
(Synonyms: localized or circumscribed myositis ossificans; hyperplastic bone callus: in periosteal forms)

This chapter includes different pathological conditions characterized by the neoformation of a hyperplastic bone tissue in muscular and/or periosteal sites. Hyperplastic ossification may be manifested as follows: 1) around a fracture or, more rarely, a dislocation; 2) after simple contusion or even when the patient’s history does not record trauma. In the former case, we are dealing with hyperplastic fracture callus and hyperpastic para-articular ossification (in dislocations); in the second, with spontaneous or traumatic muscular and/or periosteal ossification (so-called circumscribed myositis and/or circumscribed periostitis ossificans.

In general, the degree of hyperplasia is inversely proportional to the age of the subject, so that the most exuberant ossifications are observed in children and young adults.

1) Hyperplastic bone callus or ossification of fracture or dislocation

This is nearly exclusively observed in proximal segments of the limbs: shoulder, humerus and elbow; hip, femur and knee. Hyperplasia of the fracture callus or hyperplastic periarticular ossification, at least in young patients, is a constant phenomenon when there is severe cranial trauma at the same time as fracture or dislocation (Fig. 692). It is less frequently observed in the paretic or paralytic limbs due to cerebral lesion (for example, vascular hemiplegia: Fig. 693) or medullary lesion (for example, traumatic or congenital: myelomeningocele: Fig. 694). It is rather common to observe hyperplasia of the fracture callus in spina bifida with myelomeningocele, as we are dealing with children or adolescents. Instead, it is never observed in poliomyelitic limbs, nor in cases of paralysis due to lesion of the peripheral nerves.

Finally, hyperplasia of the fracture callus may be manifested in cases of osteogenesis imperfecta (Fig. 695) and, although nowadays an exceptional occurrence, in those of syphilis (Fig. 696).
Fig. 692. - Hyperplastic fracture callus (femur) 15 days after trauma associated with cranial fracture in a man aged 25.

In all of these cases, the presence of fracture or traumatic dislocation excludes any problem of clinical and radiographic differential diagnosis with tumors. Nor is it probable that the histopathologist is involved, as generally biopsy is not performed. The histological aspect is the same as that of the forms that follow.

Fig. 693. - Male aged 59 years. Extensive periarticular muscular ossification in cerebral hemiplegia.

Fig. 694. - Boy aged 2 years. Paraplegia due to spina bifida. Hyperplasia of the bone callus after fracture of the femoral diaphysis. «Pennate» aspect of the myositis ossificans.