Multiple heterotopic ossifications in adults with critical illness polyneuropathy secondary to acute respiratory distress syndrome (ARDS): A case-report on rehabilitation and surgical strategy

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Introduction.– A few studies list cases of heterotopic ossification (HO) with peripheral nervous system damage. Some cases of HO in critical illness polyneuropathy secondary to acute respiratory distress syndrome (ARDS) are described [1].

Case report.– A 37-year-old woman presented in October 2009 with H1N1 flu and secondary ARDS implicating 35 days of ventilatory support. While in intensive care, she developed tetraparesis with sensorimotor deficiency and limited range of motion. She was dependent for all activities of daily living. In the rehabilitation unit, clinical and radiological findings were consistent with stiffening HO involving both shoulders and elbows with ulnar nerve compression, as well as the right hip.

The surgical and functional strategy was to avoid joint destruction, free vessels and nerves from bony compressions, and obtain full independence for eating, starting with the strongest limb. The right humeral epiphysis was osteoporotic and grafted with a graft harvested from the ossification. Unusual instability (shoulders and elbows dislocations) and severe osteopenia disturbed rehabilitation. Partial release techniques (body weight support, balneotherapy, feeder) were applied.

Two years after admission, strength was scored 4 on the MRC scale, except for the upper left limb scored 2. On the right hip residual flexum and external rotation persisted at 30°. ROM for the right and left elbows were 0/20/35° respectively. Despite the inferior luxation of both shoulders, 80° of passive anterior elevation and abduction was achieved. The patient can eat by herself and even walk a few steps without braces.

Discussion.– The humeral head collapse confirms the literature data on early joint surgery for ankylosing HO [2]. Body weight supporting techniques and articular release appears to be indispensable for rehabilitation in these cases of multiple HO.

References

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Neurogenic heterotopic ossification of the hip complicated by rupture of an arterial pseudo-aneurysm, a case report

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Introduction.– Neurogenic heterotopic ossifications (NHO) are ectopic ossification, developed near the joints, which correspond to a process of ectopic neo-osteogenesis occurring following central or peripheral nerve damage. They occur in 11-25% of cranio-encephalic trauma victims, depending on the report, and are primarily responsible for orthopaedic and functional complications; however in rare cases, complications can be life-threatening.

Case report.– This 34-year-old male patient with an uneventful medical history suffered a serious head trauma requiring hospitalization in the intensive care unit for 45 days. When the patient was referred to our Department of Physical Medicine and Rehabilitation at 3 months post-trauma, we discovered neurogenic heterotopic ossifications affecting multiple joints including the hips. The clinical course was marked by the occurrence of a hemorrhagic and infectious syndrome. Explorations revealed a superinfected hematoma in the left iliopecto next to a neurogenic heterotopic ossification of the left hip, in relation with a pseudo-aneurysm of the left common femoral artery. The patient underwent surgery (double bypass) associated with a broad-spectrum antibiotics. The postoperative course was uneventful.

Discussion.– Early diagnosis of neurogenic heterotopic ossifications is essential due to the severity of vascular complications. Screening should be systematic after brain or spinal cord injury. We will discuss the etiopathogenic factors implicated, the main complications and treatment modalities of this disease entity.