Acquired neuromuscular weakness in elderly patients with femoral bone fracture, could we decrease the incidence?

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Introduction:
Acquired neuromuscular weakness (ANMW) is a serious problem in elderly, with high incidence, morbidity and mortality. It appear early after an acute stress, last for months and frequently has a difficult recovery.

Methods:
After Informed Consent, 127 patients 70-101 yo admitted in the Orthopedic Surgical Department with traumatic femoral bone fracture, were enrolled in an one year prospective, observational study. We assess the incidence of ANMW on admission, at discharge and at 3 months after using the Medical Research Council Sume Score, the time until surgery, the type of anesthesia, the severity of postoperative pain using VAS Score, the incidence of postoperative neurocognitive dysfunction, using MMSE score, the adequate postoperative nutrition.

Results:
At admission, 13 patients already had neuromuscular weakness and were excluded from the study. At 3 postoperative day 16 patients developed ANMW. At discharge from the hospital, 49 patients were diagnosed with ANMW and were allocated in group B, the others without ANMW were allocated in group A. The time until surgery was significantly higher in group B 67.3 vs 10.5 h, p<0.05. Concerning the type of anesthesia, in group A 84.6% had spinal/regional techniques of anesthesia vs 65.3% in group B, p<0.05. Concerning VAS score at 24 h, 51% of patients from group B experienced severe pain vs 6.15% in group A and 34.6% of group B experienced moderate pain vs 16.9% in group A, p<0.05. The incidence of postoperative neurocognitive dysfunction was 6.15% in group A vs 36.6% in group B, the caloric intake was 87.2% of the requirements in group A and 61.3% in group B.

Conclusion:
We could conclude that are many important factors implied in the development of ANMW and some of them we could influence by early surgical procedure, loco-regional techniques of anesthesia, adequate pain control and optimal nutrition.