Three-Months Functional Outcome in COVID-19 Critical Care Patients: Preliminary Results from a Follow-Up Study

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Introduction: The number of people affected by COVID-19 is unprecedented and a remarkable part of hospitalized patients were admitted to intensive care unit (ICU). However, long-term clinical complications and sequelae for survivors of COVID-19 are unknown.

Methods: Beginning on June 2020, the ASST Monza (Italy) established a multidisciplinary follow-up program for COVID-19 patients. We enrolled hospitalized patients who were admitted to ICU with a diagnosis of COVID-19 pneumonia, received invasive mechanical ventilation for > 72 hrs and were successfully weaned and discharged from ICU. Functional assessments were collected at 3 months after hospital discharge and included: Clinical Frailty Score (CFS, see Tab.1), Activities of Daily Living Scale (ADL), Instrumental Activities Daily Living Scale (IADL), Short Physical Performance Battery (SPPB) and Handgrip Strength evaluation. An Handgrip < 30 kg for men and < 20 kg for women was considered abnormal. Data are shown as Median + IQR.

Results: 72 patients were enrolled, of which 53 (74%) were males with a mean age of 60 + 10 years. No patients died after ICU discharge. 50% of the population resumed the previous job and 59% came completely back to their daily activity. Pre-admission CSF was 2 + 1 in 69% of patients and most of them lost 1 point of CSF at 3 months after discharge. Moreover, patients were completely independent (full score) in ADL and IADL in 93% and 92% of cases, respectively. Evaluating functional status we found a mean value of SPPB in the population of 11 + 2 over 14 and a handgrip strength of 36 + 12 kg among men (in 28% of patients < 30 kg) and 22 + 12 kg among women (in 41% of patients < 20 kg).

Discussion: Among our ICU COVID-19 population the greatest part of patients have an independent life with complete autonomy in daily life activities after 3 months from hospital discharge and half of them have already returned to their previous work activity. Nevertheless, functional status shows some residual physical impairment and a considerable part of patients is in lack of strength and reveals signs of sarcopenia.

Conclusion: Social, functional and physical recovery seems to be encouraging; however, further evaluations are necessary in order to monitor patients' progression.

Clinical Frailty Scale		
1	Very Fit	People who are robust, active, energetic, and motivated. These people commonly exercise regularly. They are among the fittest for their age.
2	Well	People who have no intense disease symptoms but are less fit than category 1. Often, they exercise or are very active occasionally, e.g., seasonally.
3	Managing Well	People whose medical problems are well controlled, but are not regularly active beyond routine walking.
4	Vulnerable	While not dependent on others for daily help, often symptoms limit activities. A common complaint is being "slowed-up" and being tired during the day.
5	Mildly Frail	These people usually have more evident slowing, and need help in higher-order instrumental activities of daily living (IADLs) such as finance, transportation, heavy housework, medications. Typically, mild frailty progressively impairs shopping and walking outside alone, meal preparation, and housekeeping
6	Moderately Frail	People need help with all outside activities and with keeping house. Inside, they often have problems with stairs and need help with bathing and might need minimal assistance (stand-by) with dressing.
7	Severely Frail	Completely dependent on personal care from whatever cause (physical or cognitive). Even so, they seem stable and not at high risk of dying (within six months).
8	Very Severely Frail	These patients are completely dependent, approaching the end of life. Typically, they could not recover even from minor illnesses
9	Terminally Ill	Approaching the end of life. Typically, they could not recover even from minor illnesses

Tab 1. Clinical Frailty Scale