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Comprehensive Geriatric Assessment in hospitalized older patients with COVID-19

Dear Editor,

We read with great interest Sano *et al.*'s recent article in *Geriatrics & Gerontology International* entitled “COVID-19 in older adults: Retrospective cohort study in a tertiary hospital in Japan,” which was about 26 patients with COVID-19 infection, admitted to tertiary and partner hospitals in Saitama, Japan.¹

We would like to reinforce the concept of geriatrics as a science of complexity characterized by the use of a specific assessment tool such as the Comprehensive Geriatric Assessment (CGA).

Indeed, it is common knowledge that the analysis of the data collected with the CGA is particularly useful and effective in the management of geriatric symptoms and syndromes, specifically in situations of complexity/emergency, the recent COVID-19 pandemic among these.²

Among the indices used in the hospital setting, the Multi-dimensional Prognostic Index (MPI) has been identified as a well-calibrated tool with a good discrimination and accuracy both for

short- and long-term mortality.^{3,4} Moreover, the MPI is the only one based on information from a CGA that explores comprehensively not only health aspects, but also functional, cognitive and nutritional domains, as well as cohabitation status.

MPI total score is the sum of standardized and extensively validated rating scales, widely known by the clinicians³ and expressing it as a score from 0 to 1. Three grades of MPI were identified: low risk, 0.0–0.33; moderate risk, 0.34–0.66; and severe risk, 0.67–1.0.³

We identified 88 patients with COVID-19 consecutively admitted at “Pugliese-Ciaccio” General Hospital, Catanzaro, Italy, from March 15 to October 15, 2020. Twenty-seven (45.76%) patients were ≥65 years old with a mean ± SD age of 77.96 ± 8.71 years.

MPI was used. Delirium was evaluated using the 4AT.⁵ The patients' demographic, clinical and CGA data are listed in Table 1. The prevalence of delirium was 29.63%; with 0.0% for MPI-1 (low risk), 37.5% MPI-2 (moderate risk) and 62.5% MPI-3 (severe

Table 1 Demographic, clinical and Comprehensive Geriatric Assessment data in hospitalized older patients with COVID-19

	Total	MPI-1, low risk	MPI-2, moderate risk	MPI-3, severe risk	P
Age, years, mean ± SD	77.96 ± 8.71	69 ± 4	78.71 ± 8.51	84.40 ± 5.72	0.011
Sex, male, %	48	60	18	62	NS
Presenting symptoms, %					
Fever	74	80	71	80	NS
Dyspnea	96	100	94	100	NS
GI symptoms	33	40	29	40	NS
Cough	67	60	71	60	NS
SPMSQ, mean ± SD	5.78 ± 3.10	0.80 ± 1.30	6.53 ± 2.21	8.20 ± 0.83	0.000
ADL, mean ± SD	1.74 ± 2.14	5.40 ± 0.89	1 ± 1.41	0.60 ± 0.54	0.000
IADL, mean ± SD	1.52 ± 2.77	6.40 ± 2.07	0.53 ± 1.50	0 ± 0	0.000
CIRS, mean ± SD	6.22 ± 2.95	2.80 ± 2.04	6.41 ± 2.57	9 ± 1.22	0.000
ESS, mean ± SD	12.63 ± 3.31	16.60 ± 0.89	10.82 ± 2.76	14.80 ± 0.83	0.000
MNA, mean ± SD	8.63 ± 2.40	10.60 ± 1.51	7.47 ± 1.97	10.60 ± 2.07	0.002
Drugs, mean ± SD	8.07 ± 2.36	6.2 ± 1.30	8.53 ± 2.57	8.40 ± 1.67	NS
Adverse outcomes					
Delirium (4AT ≥4), %	29.63	0	37.5	62.5	0.000
In-hospital death, %	25.98	0	42.86	57.14	0.004

ADL, activities of daily living; CIRS, Comorbidity Index Rating Scale; ESS, Exton-Smith Scale; IADL, instrumental activities of daily living; MNA-SF, Mini Nutritional Assessment–Short Form; SD, standard deviation; SPMSQ, Short Portable Mental Status Questionnaire.

risk) ($P < 0.000$). The prevalence of in-hospital death was 25.98%; with 0.0% MPI-1 (low risk), 42.86% MPI-2 (moderate risk) and 57.14% MPI-3 (severe risk) ($P < 0.004$).

Following logistic binary regression analysis, delirium was associated with in-hospital death ($P = 0.004$), age ($P = 0.001$), Short Portable Mental Status Questionnaire ($P = 0.000$), activities of daily living ($P = 0.028$), Comorbidity Index Rating Scale ($P = 0.001$) and MPI ($P = 0.000$); and in-hospital death was statistically associated not only with delirium but also with the Short Portable Mental Status Questionnaire ($P = 0.006$), activities of daily living ($P = 0.034$) and MPI ($P = 0.003$).

In conclusion, our preliminary data highlighted that in hospitalized older patients with COVID-19, the risk of these negative outcomes (delirium and in-hospital death) significantly increases with the increase of MPI score. Therefore, we suggest that MPI should be routinely used as an example of GCA for identifying patients with potentially higher care needs and for planning better management of geriatric conditions.

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[Corrections added on 4 December 2020, after first online publication: The 2nd author's ORCID has been added and reference 2 has been corrected.]

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COVID-19 in older adults: Typically atypical

Dear Editor,

It is increasingly recognized that older adults may present typically atypically with coronavirus disease 2019 (COVID-19). We read with interest the observational study presented by Covino *et al.*,¹ and would like to share our experience in the UK, which provides further insight into the prognostic factors and risk stratification for older adults within the context of COVID-19.

We evaluated the clinical characteristics and outcomes of 122 older adults (mean age 81 ± 8 years) with COVID-19.² Patients were categorized into typical or atypical groups based on the primary presenting complaint in the community; 73 (60%) were categorized into the typical group, and 49 (40%) into the atypical group. In the atypical group, the common presenting complaints were falls in 18 (36%), reduced mobility or generalized weakness in 18 (36%) and delirium in 11 (22%). Further assessment within 24 h of admission to hospital found 32 (65%) had typical features of COVID-19, fever being the most common, and 22 (44%) were hypoxic. This subset had worse outcomes than

those in the typical group with a mortality rate of 50% versus 38% respectively, although our study was underpowered to reach statistical significance. Cited markers of cytokine release were elevated in both groups and concomitant “silent hypoxia” was prominent in the atypical cohort. In the atypical group, 16 patients (33%) had telephone consultations with their primary care practitioner before hospitalization and 11 (69%) were subsequently prescribed oral antibiotics for presumed urinary tract or chest infection, without improvement. Notably, 35 (71%) patients in the atypical group scored ≥ 5 on the Rockwood clinical frailty score compared with 40 (56%) in the typical group.

Older patients with an atypical presentation of COVID-19 are therefore equally (and possibly more) susceptible to poor outcomes, and physicians need to be extra vigilant in patients living with advanced frailty. The extrapolated physiological implications of these factors and silent hypoxia may explain the high number of deaths reported in residential institutions. Based on this reasoning, it may not be possible to prognosticate patients based on presenting symptoms.