

Carving out a place for internal medicine during COVID-19 epidemic in Italy

Dear Sir,

Internal medicine has been immediately involved in the coronavirus disease 2019 (COVID-19) epidemic in Italy, which started in late February 2020. The first few COVID-19 cases were suspected and diagnosed in internal medicine wards, including, amongst others, a young adult male from Codogno (referred to as 'patient 1'), who was later transferred to the intensive care unit of our hospital.

The rapid spread of the disease has put much pressure on the general population, patients, healthcare professionals and on the healthcare system as a whole, which was not prepared to face such an unpredictable event, especially in terms of number of patients needing admission to hospital all at once [1]. The San Matteo Hospital Foundation (Pavia, Italy), an academic, tertiary referral hospital, is located close to the first outbreak of Codogno, and also relatively close to nearby cities in Lombardy which were later hit by the epidemic, such as Bergamo, Brescia and Cremona. The Division of Infectious Disease, the Molecular Virology Unit, the Anaesthesia & Intensive Care Unit, the Emergency Department, the Pulmonology Unit and the Risk Management Unit dedicated all their efforts in order to overcome the growing epidemic, undergoing a rapid process of reorganization and expansion [2].

Internal medicine was also called to the front line and has proactively responded with great flexibility to the growing number of cases, transforming its divisions into departments dedicated to the care of COVID-19. Paradoxically, a discipline that has chronicity as the main object of study found itself at the forefront of an acute epidemic. At our hospital, two entire Internal Medicine Units, in a few days, were transformed into 'COVID' wards. Patients who were already admitted for reasons other than COVID-19 were either transferred to 'non-COVID' hospitals, or, when appropriate, discharged home within two-three days. During the first 20 days since ward transformation, 129 patients with COVID-19 have been admitted, three quarters of them requiring noninvasive ventilation. This number is quite impressive, considering that

the total number of beds in the two Internal Medicine Units is 76 and that the intensity of care markedly increased. One quarter of patients were discharged home after a mean time of nine days, whilst less than one in ten required to be transferred to the intensive care unit.

From a clinical point of view, the internist was not floored by this 'viral' event, as the management of pneumonia and respiratory failure still pertains to her/his field of expertise. Further, COVID-19, due to its heterogeneity, can be considered an internal medicine condition, as it is more than a single-organ disease, being the gastrointestinal tract, the central nervous and cardiovascular systems all possible targets. This disease can onset with varied and nonspecific symptoms, such as cough, muscle pain, ageusia, anosmia and diarrhoea, and can be complicated by myocarditis, acute hepatitis and kidney failure [3]. The internist is already prepared to treat this type of patients, as the management of complex diseases is the norm rather than the exception.

Important ethical and pragmatic principles are called into question, pointing at the need for transparency and inclusivity, as it has been recently stated [4]. Suffice it to say that Italy has one of the world's most aged populations, and multimorbidity is the main clinical feature of the elderly population. Ageing and multimorbidity are certainly the most important determinants of frailty, which is related to adverse health outcomes. In this scenario, internal medicine adaptability, spacing from a primary to a tertiary care setting, could also act as a link between hospital and territory medicine, especially for patients with multiple chronic conditions who cannot be left abandoned. The paucity of resources deriving from COVID-19, including medications, ventilators, available beds and physicians, forces us to carefully evaluate who to treat and how to treat. The elderly population is the most affected by COVID-19 according to preliminary data reported daily by the Italian Ministry of Health and the Civil Protection. The overall mortality rate is roughly 10%, and most deaths occurred in individuals aged more

than 65 years old. Whether these patients died from, or died with, COVID-19 will need to be ascertained, even if the bidirectional relationship between acute and chronic conditions cannot be dissolved.

Our first reaction to all these abrupt changes was that of frustration for the sense of helplessness deriving from the absence of specific therapies, the enormous workload under stressful conditions and for the fear of the risk of being infected. After the first moments of loss, the proactive implementation and the rapid reorganization of the department into 'dirty' and 'clean' pathways, and the availability of novel experimental therapies certainly raised doctors' morale. The use of monoclonal antibodies – such as tocilizumab, which has the rationale to counteract the cytokine storm underlying COVID-19 – is not uncommon in an internal medicine setting. Also, given the relatively small 'window of opportunity' for the use of tocilizumab, a careful risk–benefit profile assessment should be made, taking into account patients' age, comorbidities and overall clinical presentation.

Despite the aforementioned corrective actions, the risk of burn-out amongst physicians still remains high. Above all, incommunicability is the most relevant feature when coping with COVID-19. Before entering the ward, physicians must wear protective clothing, including suit or gown, apron, head covering, gloves, mask and goggles. Most patients also require oxygen therapy which constitutes another barrier to communication. In such a scenario, empathy can be transmitted only through eye contact or a quick touch of patient's hand, so to create a sort of 'healing bond', which will continue even after discharge. The role of the internist does not end with patient's discharge, as organ injuries induced by COVID-19 might be irreversible thus predisposing to the development, or worsening, of chronic diseases such as pulmonary fibrosis and chronic kidney disease. Hence, the internist could be in charge of the management of these patients since the onset of COVID-19, until the occurrence of late complications.

In summary, internal medicine has responded promptly to COVID-19 Italian epidemic, due to its holistic attitude – the sick patient as an individual, rather than the disease, is the object of the study – and its methodological approach [5]. Bill Gates, with regard to COVID-19, stated that 'leaders have

two equally important responsibilities: solve the immediate problem and keep it from happening again' [6]. Paraphrasing this sentence, we may say that internal medicine could solve the immediate problem and could prevent it in the future. First, it has considered clinical reasoning prior over technical ability and technological instruments. Secondly, it has proved capable of adapting in relation to the various clinical settings and to the changing burden of disease. Finally, internal medicine has deemed humanism as an essential part of clinical practice [7]. Hence, this crisis may represent a great opportunity to rethink the healthcare system in a more rational and patient-centred way.

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Author contribution

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Marco Vincenzo Lenti ; **Gino Roberto Corazza**  & **Antonio Di Sabatino** 

From the Department of Internal Medicine, San Matteo Hospital Foundation, University of Pavia, Pavia, Italy

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Correspondence: Prof. Antonio Di Sabatino, Department of Internal Medicine, Fondazione IRCCS Policlinico San Matteo, University of Pavia, Piazzale Golgi 19, 27100 Pavia, Italy.
(e-mail: a.disabatino@smatteo.pv.it) 