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The Changing Patterns in the Management of COVID-19 and Its Challenges for Primary Care and Family Physicians

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Editorial

One of the most challenging experiences for any physicians is to face sick patients in the COVID-19 pandemic [1], at the day of the redaction of this editorial with almost 14 million of infected people, 600 thousand deaths, 5 millions of active cases and 60,000 patients in critical care [2], not only for the diversity of clinical manifestations of the disease itself, that can be mimic many other pathologies in diverse organs & systems, is a real challenge to give care to the regular patient that have a SARS-CoV-2 infection because after seven months living with this new virus [3], we learn at giant steps, but still crawling in others, and one of them is the behavior of some acute and chronic diseases in the presence of this emergent virus. The first line of consult and reference for many people is the family physician, and the first line of attention comes from primary care physicians, so, both were exposed to a high risk, an increasing number of patients and interactions, and consequences like burnout and depression were more often observe in these physicians, in part, due to the emotional relationship with families and sometimes the incapacity to help them against the complications of COVID-19 or their previous pathologies [4].

The classic triad of dry cough, fatigue & fever, plus the alarm symptom of shortness of breath [5], present new manifestations every day, that mimic dermatological conditions [6] like enanthems and various types of rash [7], other endemic & epidemic viral diseases like dengue [8], neurological expressions like acute hemorrhagic necrotizing encephalopathy [9] and "new" symptoms like anosmia & taste disorders (that even present as a prodromal manifestation before other-), muscular aches, among other [10]. In this special aspect, the family & primary care physicians must be open to consider several atypical manifestations in their patients as a possible COVID-19 associated presentations, but need some guidance because this is a whole new chapter in infectious disease (and humanity) history; and as medical microbiologist, I received a lot of requests about many different aspects related to the virus, the disease, diagnostic & therapeutic approaches, prevention and a big piece of the consultation pie comes with the fake news that constantly bombards patients and doctors throughout our hyper-connected world, and that acting as factors of confusion, anguish and distraction; and I need to demonstrate to the colleagues and patients that the truth behind the science is the only path that we must walk in this pandemic times.

Special mention to the Multisystem Inflammatory Syndrome in children -and adolescents- (MIS-C), associated with SARS-CoV-2 infection, with clinical & laboratory features that remains the Kawasaki's Disease; and needs quickly detection & management due to serious and life-threatening illness in previously healthy children and adolescents, another challenge to the family & primary care physicians [11].

Many doubts about paraclinical tests comes from the spectrum of action of the SARS-CoV2 over the hematological parameters, and anemia, leucocytosis (with increase of neutrophils) followed by marked leukopenia (mainly lymphopenia), moderate thrombocytopenia; increases in Reactive C Protein and Erythro Sedimentation Rate were frequently observe, but often can confuse, specially the changes in white blood cells count [12].

The biomarkers interpretation, with emphasis in Procalcitonin & Ferritin, aren't constantly present in all patients, especially in early stages of the disease (asymptomatic, mild/moderate symptoms), but are so important in severe & complicated patients. The same consideration should be used for the interleukin 6 (or others) determinations, as a prognostic factor in the disease evolution and for the treatment and management selection. In the case of the D-dimer, it goes to really huge values, that we never saw previously the COVID-19 pandemic [12].

The confusion that can appear when reviewing the imaging studies (simple chest radiography,

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ultrasound, computed axial tomography or even nuclear magnetic resonance), when evidencing different from the "classically" described, such as ground glass image on radiographs, can instead, the diagnosis, however, the ultrasound patterns of the thorax can help in the triage and classification of the suspicious patients, and direct them to the molecular verification of the infection [12].

The "walking -happy- hypoxia" (lower blood oxygen saturation) in a patient that comes walking to the facility care, and talk, it makes us double-check that blood oxygen saturation figure, and sometimes we go from pulse oximetry to an arterial blood gas determination, to find ourselves at low values that we were not used to seeing without a correlate of respiratory distress, but that present as a weird characteristic in many of the COVID-19 patients [13]. If recommended perform the 6 Minutes' Walk Test (6MWT) if oxygen saturation is near 94%, to discover the 'unmasking hypoxia', that's associated with progression to clinical respiratory distress & bad prognosis if not treated quickly [14].

One interesting fact, comes from the observations that some risk factors for the acquisition of SARS-CoV-2 and the development of COVID-19 are prevalent community diseases like high blood pressure, diabetes, obesity, chronic respiratory conditions (BPOD, asthma), and the elderly condition; but recent observations shows that patients without risk factors develop sequels like diabetes after recovery from COVID-19 [15], equilibrium alterations, chronic fatigue syndrome, etc., and not only the pulmonary fibrosis initially described [16].

The questions related to the virus itself, like successful spread in the community, house or healthcare facilities need to be addressed, and based on the available knowledge (many of them based on previous experiences with SARS-CoV-1 & MERS-CoV, and experimental & in silico models), needs to be adapted to the real-world setting, to provide practical and useful recommendations, an example of it is the use of facemask, what's the most adequate? The answer depends of whom asking, because for healthcare personnel in the emergency room, the FPP2 must be mandatory, but for the reception desk administrative employees, a non-surgical mask offers adequate protection, for patients in triage the protection is different for the ones in the hospitalization ward [17].

The use of disinfecting substances for cleaning in the house, car, office, hospital, and for personal hygiene is another frequent subject of consult, and we must insist that hand washing with water & soap is the most efficient measures to avoid viral spread, plus respiratory etiquette, avoiding touch face, eyes, nose or mouth, social distancing (more than 6 feet) and avoid crowds, and closed-spaces; and emphasize that solutions of alcohol-gel will be used only if you don't have access to conventional hand washing. The common household commercial disinfecting solutions are adequate for use in home, chloride and quaternary ammonium derivate must be reserve for intensive cleaning and disinfection in other settings [18,19].

For all doctors, the knowledge of the natural history of the evolution of the infection and its pathophysiology (duration of incubation period, asymptomatic disease, infective period, viral load maximum peak, onset of the immune response, etc.) is mandatory [20], to allow select the test for diagnosis (molecular -PCR-, antigen test) or follow-up (serological), or use the epidemiological discharge criteria (10 days after the onset of symptoms, 3 last days without fever and with resolution of concomitant symptoms) [21].

About treatments, only the antiviral remdesivir is approved for use in COVID-19 patients, but with strict criteria for prescription and only in hospitalized patients [22] and United States Food & Drug Administration (FDA) issues emergency use authorization for potential COVID-19 treatment [23]. The use of other drugs still under investigation [24] and must be consider always in a balance among benefit over damage. Support measures needs to be in place. Is necessary consider that many hospitals have its own management protocols, and national & international guidelines exists and still under permanent update to be consult [25].

I consider that provide with advises and providing most trustworthy & relevant evidence from scientific literature is a pretty important function for many of us that support the general practitioners, family doctors & primary care physicians, and orientation to them will result in better patient management, burnout reduction and preserve the wellness of the healthcare team, and finally, the control of COVID-19 pandemic.

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