



RESPIRATORY DISTRESS SYNDROME BY COVID-19: A CASE EXPERIENCE

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ABSTRACT

In December 2019, after a series of reports of pneumonia cases in China, it led to the detection of a new coronavirus infection (COVID-19), an acronym for "coronavirus disease 2019"). Elderly patients with concomitant diseases tend to develop severe respiratory and systemic conditions with high mortality. COVID-19 has become a pandemic disease; Although it directly invades the lungs, it also affects other systems such as coagulation, the kidney, and the cardiovascular system, causing the intensive care systems (ICU) to be saturated.^{1,2,3.}

The COVID-19 virus causes various clinical manifestations, including respiratory conditions, from the common cold to severe pneumonia with respiratory distress syndrome (ARDS), septic shock and multiple organ failure.⁴

We present the case of a patient treated in our hospital, who developed ARDS. Despite not involving unusual management, she is a prototype patient of severe community pneumonia due to coronavirus. A pneumonia that we had not faced until now and that we are forced to handle en masse.

Objective

Expose how Covid-19 affects an older adult patient, developing SDRA.

Design

Prospective, observational in a single center.

Methodology

This is a systematic review of respiratory distress syndrome due to covid-19 in elderly patients, emphasizing its clinical characteristics and short-term complications. The information and images obtained belong to the medical personnel in charge of the case, whose reinforcements are provided by the Excel, Word and JPG statistical package.

KEYWORDS : SDRA, Covid-19, elderly.**INTRODUCTION**

Coronaviruses were discovered in the 1960s as important human and animal pathogens, causing various illnesses that can range from a cold to pneumonia.³ As of December 2019, six types of coronavirus that could cause disease in humans had been identified, including the causes of the two previous epidemic outbreaks: the SARS coronavirus that first appeared in 2002 and the MERS-CoV, which was first identified in 2012 in the Middle East.^{5,6.}

At the end of December 2019, a new coronavirus was identified as the causative agent of a group of pneumonia cases in Wuhan, capital of China's Hubei province, naming it by the World Health Organization (WHO) in February 2020, coronavirus 2, severe acute respiratory syndrome (SARS-CoV-2) and the disease that causes COVID-19, which stands for coronavirus disease 2019. From Wuhan it spread rapidly, initially resulting in an epidemic throughout China, followed by a growing number of cases around the world, generated the current pandemic and health emergency.^{7,8.}

The spectrum of severity of the disease ranges from asymptomatic, mild to severe. Most patients are not severe, but others can develop pneumonia, with acute respiratory failure (ARF) being the most frequent cause of mortality. Pneumonia appears to be the most common severe manifestation of infection, characterized mainly by fever, cough, dyspnea, and bilateral infiltrates on chest images. There are no specific

clinical features that can distinguish this disease from other viral respiratory infections.^{9,10}

The majority of fatal cases have occurred in patients with advanced age or underlying medical comorbidities (including cardiovascular disease, diabetes mellitus, chronic lung disease, hypertension, and cancer). Acute respiratory distress syndrome (ARDS) is a major complication in patients with severe disease and has been observed to occur in 20% of patients, in approximately after a median of eight days.¹¹

Case Presentation

This is a 75-year-old female patient born and resides in Quito, Pichincha province, Ecuador; personal pathological history: type 2 diabetes mellitus, morbid obesity, chronic gastritis. Your usual treatment: insulin NPH 14 IU, simvastatin and omeprazole. Without cognitive impairment, he went to a specialized hospital with a 5-day clinical picture of Eva 8/10 puncture-type chest pain, unquantified thermal rise, cough without expectoration, and MMRC4 dyspnea; two members of his family had recently been diagnosed with COVID-19.

Upon physical examination: BP: 140 / 70mmHg, Temperature 38.5 °C, HR: 109 bpm, RR: 25 rpm; Basal saturation of 86%, which requires reservoir at 10 bpm for Saturation 92%. Eutrophic, fair general appearance, auscultation with scattered bilateral crackles, no edema or phlogotic signs.

In extension tests: leukocytes 12.50 Neutrophils: 85%, Hemoglobin 12.30 g / dl, creatinine: 1.10mg / dl, Urea: 90 mg / dl, CRP: 100 mg / L, Lymphocyte 0.27 thousand / mcl, ferritin 800.9 ng / ml, d-Dimer: 0.99 mcg / ml, procalcitonin 8.52 ng / ml, PCR-COVID-19 positive. Chest X-ray: bilateral diffuse opacities suggestive of viral infection (COVID-19). (Photo 1)



Photo 1. Chest X-ray: Bilateral Diffuse Opacities

Once diagnosed with severe pneumonia due to COVID-19, treatment based on lopinavir / ritonavir, and enoxaparin (12/12 days) is prescribed. Due to torpid evolution and persistence of inflammatory markers (ferritin: 615 ng / ml, LDH: 909U / L, Leukocytes: 20.86 thousand / mcl, lymphocytes 0.50 thousand / mcl, d-dimer: 15.78, standard ground glass chest tomography bilateral diffuse (Photo2-3), and suspicion of ARDS was associated with dexamethasone and required management in intensive care. It was managed with protective ventilation maintaining VC modality with VT 6 ml / kg, PEEP 16, it should be noted that the patient-maintained plateau pressures for below 30. The plateau pressure difference and PEEP, was maintained throughout the process below 15. It requires pronation cycles (which are maintained for 24 hours). Last prone on 3/15.

By clinical and control tomography, it was classified as COVID-19 in late phase plus super-added pneumonia. Later, the patient presented diaphoresis, tachypnea, with respiratory acidosis gasometry, suffered cardiorespiratory arrest, without a favorable response to resuscitation maneuvers and died.

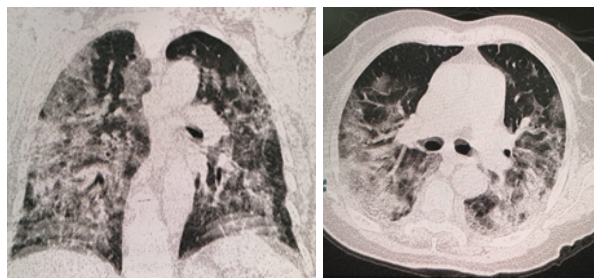


Photo 2-3: Simple Chest Tomography: Bilateral Diffuse Ground-glass Pattern, With A Tendency Towards Baseline Consolidation.

DISCUSSION

This was one of the first two cases of serious COVID-19 with invasive ventilatory support registered in our hospital. Particularly an older adult patient, with multiple comorbidities, overweight, which placed her within the group of apparent high risk according to the parameters reported in the series of patients with COVID-19 in Asia and Europe (older than 65 years with one or more comorbidities cardiorespiratory, diabetes mellitus, cancer).

Another epidemiological point to highlight was that the patient had direct contact with relatives positive for COVID-19. On the other hand, the patient's presentation is a perfect representation of the natural history of the disease, taking into account that after contact with family members, symptoms begin 5 days later (average incubation period 5.1 days).^{12,13,14.}

The signs of severity in the current case are clinical: dyspnea at rest, viral pneumonia with bacterial superinfection, pneumonia, and severe acute progressive respiratory failure syndrome, with rapid deterioration despite management with high oxygen supply and the requirement for invasive ventilation.^{15,16.} The evolution and response were very poor, which is why it led to a fatal scenario.

CONCLUSIONS

The coronavirus belongs to the Coronaviridae family. Six types of disease have been identified in humans: four of them cause mild respiratory symptoms, while Middle East respiratory syndrome (MERS) and severe acute respiratory syndrome (SARS) cause pandemic, potential severe lung involvement and death.^{17,18.}

Until now, no specific treatment for the new disease has been defined, with symptomatic control as the main therapeutic measure. Despite this, the rapid deterioration of the health condition of those infected shows the poor efficacy of symptomatic treatment.^{19.}

In general, patients develop alterations in the respiratory system, leading to severe pneumonia, pulmonary edema, acute respiratory distress syndrome (ARDS) or multiple organ failure as the case presented.

Conflict Of Interests

The authors declare that they have no conflict of interest.

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