JMS 2021;4(1):3-5
UDC:616.24-002-02:[616.98:578.834

NOVEL CORONAVIRUS PNEUMONIA, MANAGEMENT, DIAGNOSIS AND TREATMENT- CASE REPORT

Tatjana Gjorsheska[1], Janeku K.M[2]
[1]Department of Internal Medicine, General Hospital Struga, Republic of North Macedonia
[2]University Clinic for Infectious Diseases and Febrile Conditions, Faculty of Medicine, Ss. Cyril and Methodius University in Skopje, Republic of North Macedonia

Abstract

COVID-19 is caused by a novel coronavirus now called severe acute respiratory syndrome SARS-Cov-2. It has caused a pandemic, threatening the global public health. The most serious complication of COVID 19 is a type of pneumonia that has been called 2019 novel coronavirus pneumonia (NCIP).

COVID -19 pneumonia is manifested with an atypical pneumonia and diffuse bilateral lung involvement. Severe cases present with acute lung injury and acute respiratory distress syndrome (ARDS). Potential risk factors for severe COVID-19 pneumonia include age above 65 years, diabetes, hypertension, chronic obstructive pulmonary disease, immunosuppression, HIV/AIDS, as well as other causes of immunosuppression, sickle cell disease, malignancy, chronic kidney disease, pregnancy, overcrowding.

We present a case of our successful treatment of one COVID-19 pneumonia patient with a low mortality risk factor. The purpose is to present the clinical examination and to correlate chest X-ray with the PCR RNA test. However, we were somewhat skeptical due to negative test results (PCR RNA naso-oropharyngeal swabs were repeated three times during treatment of the infection and they remained negative and further included functional serology test .Our experience underlines the importance of the use of a multidisciplinary therapeutic approach in order to achieve a favorable clinical outcome, as well as COVID-19 diagnosis with the use of chest imaging modalities.

We present a case of a 21-year-old woman with COVID-19 pneumonia, without known risk factors, who had unremarkable increase of C reactive protein and D-dimers and normal lymphocyte count during COVID-19 infection, presenting neurological symptoms as paresthesia of the lower limb.

***Keywords**:* COVID-19, SARS CoV 2; coronavirus; viral pneumonia, paresthesia (lower limb).

Introduction

The novel coronavirus SARS- CoV-2 is the seventh member of the coronaviridae family known to infect humans. The estimated mortality rate of COVID-19 so far is lower than that of SARS of the Middle East Respiratory Syndrome.

The estimated mean incubation period of SARS CoV 2 is 1 to 14 days. Fever is often the major and initial symptom of COVID-19. Other symptoms include: dry cough, sore throat, and shortness of breath, muscle ache, diarrhea, nausea, dizziness, headache, rhinorrhea, chest pain, and vomiting. The clinical symptoms of COVID-19 pneumonia are the same as the common upper respiratory tract infection, but chest X-ray and chest CT have certain specificity.

This disease is usually mild in about 80% of cases while in 20% it progresses to a severe disease (patients quickly progress to develop ARDS, septic shock, metabolic acidosis, and coagulopathy) [1, 2].

Being primary a respiratory infection, COVID-19 is transmitted mainly through inhalation of infected droplets which are generated when an infected person coughs, sneezes, talks, sings. Measures to limit the spread of infection were put in place by many countries, including Macedonia, since the beginning of the pandemic. These measures include social lockdown, social distancing, restriction on travels, use of face mask and frequent hand washing or use of alcohol-based hand sanitizers. In places where these measures have been implemented, they have been shown to be beneficial in slowing down the infection rate [1, 2, 3, 4].

Fortunately, more than 80 clinical trials have been launched to test coronavirus treatments, including vaccines approved for the novel coronavirus infection, and drugs repurposing and repositioning for COVID-19 [3, 5, 6].

Case presentation

A 21-year-old woman with no known risk factors was admitted to our Hospital. She reported a contact with her father who was COVID-19 positive and hospitalized at the Clinic for Infectious Diseases in Skopje. Also, she reported no antibiotic use in the previous three months.

She presented with a three-day history of fever 38^{o}C and cough. On the account of the symptoms, she called her family doctor who prescribed tbl. Paracetamol, and sent her to make biochemical and blood test, as well as chest X-ray.

One day before her first presentation, the symptoms had worsened and she "barely slept last night, with all that coughing and cold". On the day she asked for help in a COVID outpatient center, she suddenly felt chest pain, shortness of breath, nausea, fatigue and she almost collapsed.

Physical examination (1st day in the COVID outpatient center)

In general, the patient appeared tired; her vital signs were as follows:

1. Temperature 38,5^{O}C
2. Blood pressure 120/80 mm/Hg
3. HR 100/min
4. RR 24 /min
5. SpO2: 98%

Respiratory examination revealed a mild tachycardia with regular rhythm, decreased intensity breath sound (wheezes), while the reminder of the physical examination was normal. There was no jugular venous distension or pedal edema.

First PCR RNA test for COVID-19 (nasopharyngeal, oropharyngeal swabs) turned out negative.

Serology test: SARS COV 2 IGM 3.73

SARS COV 2 IGG 21;

The gold standard for diagnosis of pneumonia is the chest X-ray, PA and lateral view. When pneumonia was suspected based on the history of the illness, subjective symptoms and physical exam, the woman's chest X-ray revealed lower right pulmonary infiltrates in the right lung and "ground glass" infiltrates bilaterally diffused, interstitial pneumonia without an effusion (mild COVID-19 pneumonia).

The following investigations were done: full blood count showed white blood count of 5.0 x10^9, with differential neutrophil count of 66%, lymphocyte count of 55%, LDH 300 U/L. The liver function and renal function were essentially normal. Blood culture remained negative, electrolytes and fasting blood sugar values were normal. She was given intravenous Ceftriaxone 1 g/12 h, Azithromycin 500 mg 1/24 h p.o, Zn gluconat 200 mg/SE, Aspirin protect 100 mg, Vit.V 1000 mg, Pulvis ACC 600 mg direct (1x throat /daily), probiotic, H2 blocker (through daily ambulance center)

Control examination (10 days after the first visit in the COVID outpatient center)

The patient was brought by a team of doctors of emergency medicine and was hospitalized in the COVID center (General hospital, Struga).

On arrival at the outpatient center, the patient felt fatigue, confused, stressed, she could not stay on her bare foot, "shaking", with tachydyspnea. Physical examination: RR 36/min, oxygen saturation 96%, temperature 36.4 C, HR 106/min, blood pressure 140/90 mm/Hg, Ca 2.49 mmol/L. Examination of a neurologist and a psychiatrist was indicated. Respiratory physical examination revealed increased breath sounds, control chest X-ray regression of pulmonary infiltrates and interstitial pneumonia. Laboratory analysis remained in normal range.

Second PCR RNA COVID-19 remained negative.

Serology test:

SARS COV 2 IGM; 3.73 IGG 4.27.

The intravenous therapy was commenced, and Apaurin i.m. was applied.

Control examination during hospital treatment (14 days after the first COVID outpatient visit) revealed TT 37^{o}C, blood pressure of 95/60 mm/Hg, HR 87/min, RR 20/min, SpO2 96 room air. The laboratory results showed WBC 5.2 x10^9, Ly 45%, aspartate aminotransferase 38 u/l, alanine aminotransferase 22 U/l (normal range, C-reactive protein 2.29 mg/dl), D-dimers 508.8, glycemia 5.4 mmol/L, LDH 150 U/l; thyroidal (TSH 1.65; FT4 19.21; D-dimer 216.64; Tu/Ca markers CEA 1.1 CA 125 (6.2) CA 15.3. Control (third) PCR RNA SARS CoV 2 was negative.

Control examination, Neurologist (Dg. Pareshesiae extremities bill. Cum Cephalic/Vertigo; St. post collapses)

Neurological examination – Romberg +/-; Improvement of the condition; Therapy given by an Internal medicine doctor tbl. Moxiral s.1x 1 / 7 days, supplements, tbl. Helex 0.5 mg 2x1/2, tbl. Neurovit s.1x1, Tbl. Magnesium s.1x1. Indications for EEG; EMG; MRI imaging of lumbosacral skeleton.

After the improvement of patient's general condition by application of parenteral antibiotic therapy, supportive therapy and supplements, vitamins, gastroprotection, regression of chest X-ray findings, pulmonary examination with normal intensity of breath sounds, the patient was released from hospital. Blood pressure 130/90 mmHg….120/70 mm/Hg…130/80 mm/Hg. Sat O2 96…97…98%; RR 24/min; Temperature 37.9….37.5…36.9^{o}C; HR 84/min….80/min…..78/min.

Serology analysis: SARS Cov2 IgM 0.65 (<1); SARS Cov2 IgG 1 (<1).

Control PCR RNA COVID-19 test (nasopharyngeal, oropharyngeal swabs) was repeated (further control to be made with her family doctor). Control examination with a neurologist after receiving the results from EEG, EMG, MRI scan of skeleton.

Th. Caps. Tricef 200 mg s.2x1, Tbl. Moxiral 400 mg s.1x1, vit. C 1000 mg s.1x1, therapy recommended by a neurologist, advice given to the patient; isolation.

References:

1. European Center for Disease, Prevention and Control: Coronavirus disease 2019 (COVID -19) in
2. the Eu/EEA and the UK – eight update. RAPID RISK ASSESMENT.
3. WHO (2020): Clinical management of severe acute respiratory infection when COVID 19 is
4. suspected. Intern guidance.; 13 mart 2020;
5. World Health Organization: Report of the WHO-China Joint Mission on Coronavirus Disease 2019 (COVID-19), Laboratory, diagnostics and virology, 2020. who-china-joint-mission-on-covid-19-final-report.pdf
6. Milenkovik Z. Protokol za postapuvanje pri somnenie za koronavirsna infekcija/bolest na Klinikata za infektivni bolesti Skopje. Stadium na zadrska/ublazuvanje. Protokol, verzija 2/20:1-28, 21 mart 2020, Klinika za Infektivni bolesti i febrilni sosotojbi , Skopje
7. Zhou, M., Zhang, X. Qu, J. Coronavirus disease 2019 (COVID-19): A clinical update. Front. Med. 14, 126–135 (2020). April 15, 2020DOI:https://doi.org/10.1016/S2213-2600(20)30172-7
8. Wang D, Hu B, Hu C, Zhu F, Liu X, Zhang J, Wang B, Xiang H, Cheng Z, Xiong Y, Zhao Y, Li Y, Wang X, Peng Z: Clinical characteristics of 138 hospitalized patients with 2019 novel coronavirus-infected pneumonia in Wuhan, China. JAMA, 323(11):1061-9, 2020. doi: 10.1001/jama.2020.1585.