

Isolated Diarrhea Revealing Severe Covid-19 Pneumonia in a Chronic Hemodialysis Patient in Ziguinchor, South of Senegal

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Abstract

Introduction: COVID-19 disease is a highly contagious, rapidly spreading viral infection. Chronic hemodialysis patients are at high risk of contracting the disease. Here we report a case of COVID-19 pneumonia revealed by isolated diarrhea during a dialysis session.

Observation: Ms. RD aged 45 has been on chronic hemodialysis for 9 years with the initial nephropathy of nephroangiosclerosis. She presented with isolated fluid diarrhea a week after a religious festival and the diagnosis of acute gastroenteritis was made and treatment was instituted. Faced with the persistence of diarrhea, 48 hours after treatment, she presented with discomfort on dialysis with shortness of breath and 86% desaturation in ambient air. The real-time RT-PCR test for covid-19 carried out urgently came back negative. The hemogram showed lymphopenia at 630/ μ l. Stool culture and parasitological examinations of stools were sterile. The chest x-ray showed blurred opacifications of the peripheral areas of the lungs. The chest CT scan showed "frosted glass" images. The diagnosis of severe covid-19 pneumonia revealed by isolated diarrhea was made.

Conclusion: The clinical manifestations of COVID-19 infection are polymorphic in chronic hemodialysis subjects. The chest scanner allows the diagnosis in case of negativity of the TR-PCR test.

Keywords: Diarrhea; Covid-19; Ziguinchor; Senegal

Introduction

SARS-COV-2 is the virus responsible for coronavirus disease 2019 or COVID-19 (Corona Virus Disease 2019), which is a viral zoonosis responsible for the pandemic that began in December 2019 in the city of Wuhan in China. It is a highly contagious infection with human-to-human transmission [1].

Hemodialysis patients are particularly exposed to COVID 19 infection, due to certain constraints such as their hospital contacts at each hemodialysis session, the need to travel three times a week to go to their hemodialysis center and promiscuity existing in hospital premises. Moreover, there is their state of immunosuppression induced by uremia. Additionally, available data has identified them as among the groups most at risk of severe cases and death when contracting COVID-19 [2].

The clinical signs revealing Covid - 19 infection are not very specific in chronic hemodialysis patients.

We report here a rare case of isolated diarrhea revealing covid-19 pneumonia at the hemodialysis center of the Ziguinchor Regional Hospital Center.

Observation

Ms. RD, aged 45, on chronic hemodialysis for 9 years, has a left brachiocephalic arteriovenous fistula as a vascular access. The initial nephropathy was benign nephroangiosclerosis. The patient presented in August 2021, a week after the Eid el Kabir festival, with greenish liquid diarrhea at a rate of 3 to 4 stools per day without mucus, blood or other associated signs. On examination, blood pressure was 130/80 mmHg, temperature was 36.7 °C, saturation was 99% in ambient air. The patient was below her baseline dry weight. Faced with this picture,

the hypothesis of acute gastroenteritis was put forward and non-specific antibiotic therapy was started (quinolones and metronidazole). Forty-eight hours after this treatment, the diarrhea persisted and the patient had an episode of shortness of breath while on dialysis and her ambient air saturation was at 86%. Additional examinations were carried out. The real-time RT-PCR test for covid-19 was negative. The hemogram revealed anemia with hemoglobin at 8.5g/dl and lymphopenia at 630/ μ L. There were no abnormalities in other lines (white blood cells at 5260/ μ L and platelets at 338,000/ μ L. The stool culture and parasitological examination of the stools were sterile.

Frontal chest x-ray showed bilateral interstitial opacities predominating in the right hemifield which were non-specific. There was no pleural effusion (Figure 1).

In front of the lymphopenia and the results of the chest x-ray, we suspected Covid-19 pneumonia despite the predominance of digestive signs (diarrhea) and the negativity of the RT-PCR test.

Chest CT (Computed Tomography) showed bilateral frosted glass images predominating on the right with subpleural impairment. This appearance is suggestive of SARS COV-2 pneumonia with approximately 25 to 50% of parenchymal impairment (Figure 2).



Figure 1: Frontal chest x-ray.

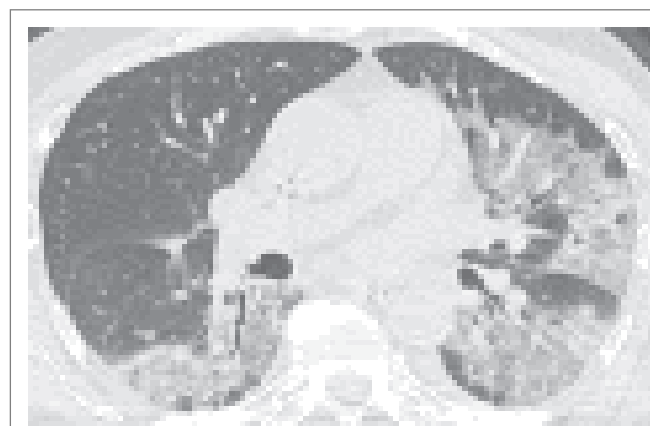


Figure 2: Unenhanced chest CT.

The diagnosis of severe Covid-19 pneumonia revealed by isolated diarrhea was made. The patient was transferred to the Epidemic Treatment Center (CTE) and treatment with Azithromycin, Dexamethasone, low molecular weight heparin therapy and oxygen therapy was instituted. The usual hemodialysis sessions were carried out at night with other patients presenting with post-covid-19 acute renal failure and requiring replacement treatment. The evolution was favorable in our patient at 15 days of hospitalization, marked by good saturation with ambient air at 99% and an end to the diarrhea. The patient re-joined the group for continuation of her hemodialysis sessions.

Discussion

Advanced chronic kidney disease, more particularly in the end stage, constitutes a comorbidity at risk of severe forms and death linked to COVID-19 infection [3]. Guidotti R, et al. reported an incidence of COVID-19 of 43.6% with an increase in the death rate of 17.5% among chronic hemodialysis patients in Switzerland during the first two waves of the COVID-19 pandemic [4].

The unusual clinical presentation of our patient was the cause of the long diagnostic delay. Ferry et al. reported a similar case of severe COVID-19 infection in a chronic hemodialysis patient revealed by digestive signs (nausea, vomiting and diarrhea) [5]. Digestive manifestations of COVID-19 infection are not uncommon. They are encountered in 17 to 53% of cases. They are isolated in 4 to 20%. They precede respiratory signs in 13% of cases, are concomitant with them in 44% of cases and follow them in 42% of cases [6].

The mechanism of digestive damage remains unclear but several factors have been incriminated, including a direct cytotoxic effect of the virus, a systemic inflammatory and immune-mediated reaction, lesions induced by drugs, vascular changes leading to ischemia, a modification of the intestinal microbiota and an exacerbation of a potential underlying pathology [7,8].

There is no typical biological profile associated with COVID-19. A decrease in leukocyte levels, particularly involving lymphocytes, as in our patient, is frequently reported in patients with COVID-19 [9].

In our patient, the RT-PCR test was negative. According to the WHO, a negative RT-PCR test does not exclude COVID-19 infection [10]. It recommends repeating samples and looking for viral material by other methods; nucleic acid amplification tests (NAAT), rapid diagnostic antigen detection tests (RDT-Ag) [10]. As the turnaround time for RT-PCR results is long (at least 24 hours), alternative methods have been proposed to improve the triage and diagnosis of suspected COVID-19 cases, including chest computed tomography (CT). Guan CS, et al. reported a positive predictive value of 91.1% per the obtained chest CT in the detection of lesions suggestive of SARS-COV2 pneumonia [11].

This is how the chest CT scan was performed on our patient and made it possible to arrive at the diagnosis.

Our patient benefited from the treatment based on Azithromycin, Dexamethasone, low molecular weight heparin therapy and oxygen therapy. To date, no specific treatment has been clearly identified. Hydroxychloroquine and azithromycin have been proposed as potential treatments for COVID-19. Giaime P, et al. reported good tolerance of these molecules in chronic hemodialysis patients but suggested electrocardiographic monitoring because the QT interval increases during treatment, as well as blood glucose monitoring due to the risk of hypoglycemia [12]. Corticosteroids have been recommended by the

WHO for severe cases of COVID-19 [13]. COVID-19 appeared as a “thrombotic” disease with the presence of circulating anticoagulants and a high incidence of pulmonary vascular thrombosis, motivating the introduction of “reinforced” anticoagulation [14].

Conclusion

Chronic hemodialysis patients constitute a very susceptible population and hemodialysis centers are high-risk environments for the spread of COVID-19 infection. Our observation shows the diversity of COVID-19 symptoms which can be isolated or associated in chronic hemodialysis patients. A negative RT-PCR test does not rule out COVID-19 infection and chest CT is a good diagnostic tool.

Conflict of Interest

None.

References

1. Aubry P, Gauzère B (2020) Acute respiratory infections. *Med Trop* 11: 1-2.
2. Alberici F, Delbarba E, Manenti C, Econimo L, Valerio F, et al. (2020) A report from the Brescia Renal COVID Task Force on the clinical characteristics and short-term outcome of hemodialysis patients with SARS-CoV-2 infection. *Kidney Int* 98: 20-26.
3. Aydin Bahat K, Parmaksiz E, Sert S (2020) The clinical characteristics and course of COVID-19 in hemodialysis patients. *Hemodial Int* 24: 534-540.
4. Guidotti R, Pruijm M, Ambühl PM (2022) COVID-19 Pandemic in Dialysis Patients: The Swiss Experience. *Front Public Health* 10: 795701.
5. Ferrey AJ, Choi G, Hanna RM, Chang Y, Tantisattamo E, et al. (2020) A case of novel coronavirus disease 19 in a chronic hemodialysis patient presenting gastroenteritis and developing severe pulmonary disease. *Am J Nephrol* 51: 337-342.
6. Alzaharani OR, Alanazi AD, Hawsawi YM, Alati HE, Alharbi AA (2022) Gastrointestinal manifestations of COVID-19: An updated systematic review. *Trop Biomed* 39: 428-433.
7. Galanopoulos M, Gkeros F, Doukatas A, Karianakis G, Pontas C, et al. (2020) COVID-19 pandemic: Pathophysiology and manifestations from the gastrointestinal tract. *World J Gastroenterol* 26: 4579-4588.
8. de Oliveira GLV, Oliveira CNS, Pinzan CF, de Salis LVV, de Barros Cardoso CR (2021) Microbiota Modulation of the Gut-Lung Axis in COVID-19. *Front Immunol* 12: 635471.
9. Waechter C (2021) Clinical and paraclinical features of COVID-19, virological diagnosis. *Neurologie-Psychiatrie-Geriatrie* 21: 297-303.
10. Organisation mondiale de la Santé (2021) Recommandations pour les stratégies de dépistage et les capacités de diagnostic du SARS-CoV-2 à l'échelle nationale.
11. Guan CS, Lv ZB, Yan S, Du YN, Chen H, et al. (2020) Imaging Characteristics of Coronavirus disease 2019 (COVID-19): Evaluation on Thin-Section CT. *Acad Radiol* 27: 609-613.
12. Giaime P, Guenoun M, Pedinielli N, Narbonne H, Bergounioux JP, et al. (2020) Hydroxychloroquine and azithromycin tolerance in haemodialysis patients during COVID-19 infection. *Nephrol Dial Transplant* 35: 1346-1353.
13. Manus JM (2020) WHO: Covid-19, corticosteroids instructions for use. *Rev Francoph Lab* 526: 9.
14. Tacquard C (2022) Anticoagulation of COVID patients: hemorrhagic and thrombotic risk. *Transfus Clin Biol* 29: 330.