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**Repurposing of
Adamantanes for the
Potential Prevention
or Treatment of COVID-19**

Editor:

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Amantadine for the Treatment of SARS-Cov-2: Case Report

The COVID-19 pandemic caused by the coronavirus SARS-Cov-2 has left more than 750,000 deaths worldwide, and efforts to develop a vaccine have been enormous. It has finally been announced that a vaccine will be available in December 2020. However, there is still a time gap where people continue to be infected by the coronavirus and deaths continue to advance.

Several therapies have been developed for the treatment of COVID-19. Initially, studies were done in which hydroxychloroquine along with azithromycin were assessed for their ability to mitigate the effects of the coronavirus in infected people. However, the treatment was not successful [1]. Studies were also undertaken with Ivermectin, but the studies were judged to be insufficient for it to be approved as a coronavirus antiviral [2,3]. Remdesivir was finally approved in the USA for severe SARS-Cov-2 infected patients [3].

In Mexico, we reported a case of a 57-year-old male with 10 years of type 2 diabetes mellitus and hypertension who presented with an infectious condition due to coronavirus. The first symptoms were a cold and muscle pain. He was prescribed paracetamol [500 mg every 6 h] and naproxen [550 mg/d for 5 days]. He continued with his usual diabetes medication consisting of 850 mg metformin/day. However due to a persistent cough 500 mg of azithromycin was added for 3 days, but symptoms continued until he tested positive for SARS-Cov-2 by RT-PCR. His oxygen saturation levels were at 84%, so we developed a protocol to treat the patient as follows:

Amantadine 100 mg for 14 days in order to stop the replication of the coronavirus. 500 mg of aspirin were added daily for 5 days, to prevent clotting. Ipratropium/Salbutamol bromide [0.5, 2.5 mg/2.5 mL] was also added for nebulization. 3 Lpm of oxygen had to be added using a mask for 5 days then reduced to 1 Lpm. The patient

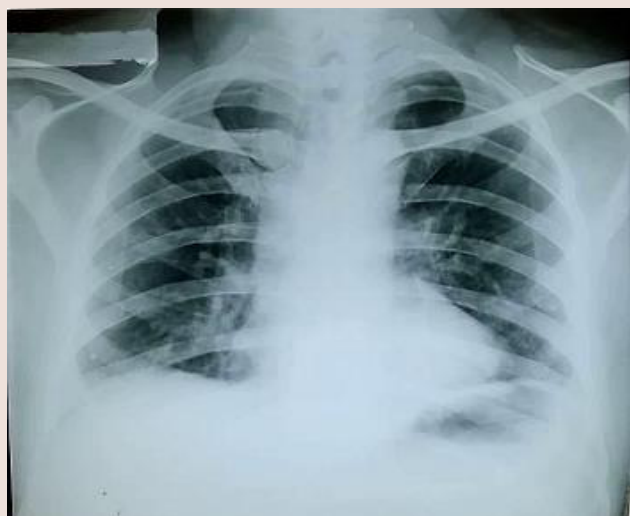


Figure 1: Chest X-ray taken 21 days after day 0 of COVID-19 infection and 14 days after treatment with amantadine.



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Table: 1 Blood test values of the patient treated with amantadine.

Hematic Biometrics	Result	Unit	Reference values
White Formula			
Segmented Neutrophils	50.2	%	39-70
Lymphocytes	39	%	20-48
Monocytes	10.8	%	0-4
Results in Absolute Numbers			
Leukocytes	7.5	10 ³ /mL	4.8-10
Neutrophils	3.8	10 ³ /mL	1.8-7
Lymphocytes	2.9	10 ³ /mL	1-4.8
Monocytes	0.8	10 ³ /mL	0-0.8
Red Formula			
Red bloodcells	4.6	10 ⁶ /mL	4-5.5
Hemoglobin	13.1	g/dL	14-18
Hematocrit	42.4	%	38-50
Platelets	210	10 ³ /mL	130-400
Blood Chemistry			
Cholesterol	244	mg/dL	Up to 200
Glucose	106	mg/dL	60-110
Hepatic profile			
Bilirubin Direct	0.12	mg/dL	Up to 0.4
Indirect Bilirubin	0.15	mg/dL	Up to 0.6
Albumine	4.7	g/dL	3.8-5.5
Total Proteins	7.07	g/dL	6.7-8.7
Globulin	2.37	g/dL	2.2-2.8
Urea	62	mg/dL	20-50
Uricacidseric	4.1	mg/dL	5
SARS-Cov-2Antibodies	IgM	-	-
	IgG	+	-

began to recover after 6 days of treatment, his oxygen saturation levels began to increase and he stopped using oxygen [4]. After the 14 days of treatment the patient started to walk a little as he was still tired. Gradually he increased his walking, until today he walks 4 km daily. Figure 1 shows a chest X-ray taken 21 days after day 0 of COVID-19 infection and 14 days after completion of a 14 day treatment with amantadine at a dose of 100 mg every 12 hours. The X-ray shows good

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lung aeration and a small residual image of pneumonitis mainly in both middle lobes but with a pulse oximetry of 94% saturation.

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