

Does this Patient Really Die for Covid-19?

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ABSTRACT

This paper reports the case of a patient with a long-standing history of Alzheimer's Disease with dysphagia and total functional dependence, and a left-arm fracture one month before hospitalization with consequently bedrest.

Keywords: Alzheimer's disease; Covid-19; Dysphagia; Nasopharyngeal swab

STUDY DESCRIPTION

As reported in a previously published letter to the Editor (Isaia et al. 2020), on March 15th, an 83-year-old woman was admitted to the emergency department (ED) from her private home with fever (100,4°F) and drowsiness. In terms of her mental status, the caregiver reported that she was aware of her surroundings at her home otherwise she was already bedridden, while at hospital admission, and during the hospital length of stay she was minimally conscious. She was not able to swallow food and drink, neither to swallow medications. Blood pressure at admission was 80/50 mmHg; she had low oxygen blood saturation (SpO₂ 90%) without dyspnea or cough. Other blood values were the following: WBC 15070 cells/mm³, hemoglobin 15.4 g/dL, creatinine 1.81 mg/dL, PCR 89 mg/L. Chest X-Ray was negative for pneumonia. While she did not have any history of exposure to COVID, she underwent nasopharyngeal swab which resulted negative. She was then moved to an Acute Medical Ward, where she was treated with cephalosporin and fluid supplementation with minimal improvement of clinical conditions (oxygen supplementation was stopped) and blood chemistries (creatinine 1.01 mg/dL, PCR 59 mg/L), but persistently high WBC count (14310 cells/mm³). On March 23rd, the patient returned home with the support of Hospital at Home Service (HHS) program of the University Teaching Hospital of Turin, Italy. HHS is a multidisciplinary service operating 7 days a week that can be directly activated by hospital wards to allow early and supported discharge from the hospital. Four doctors and 14 nurses operate 7 days a week and look after 25 patients a day, on average. The HHS provides substitutive hospital-at-home care in a "clinical unit" model. Several examinations and treatments can be carried out at home,

including blood tests, electrocardiogram, spirometry, pulse oximetry, ultrasonographic investigations, placement of peripherally inserted central catheters, oxygen and other respiratory therapies, intravenous fluids and drugs, blood transfusions, surgical treatment of pressure ulcers. The main characteristics of the service include referral by general practitioners or physicians of hospital units, 24 - hour - a - day care, rapid access to equipment needed for home nursing, multidisciplinary care, and admission, if required, in the hospital catchment area. Availability of a caregiver is necessary for participation in the program (Aimonino Ricauda et al. 2008, Tibaldi et al. 2009, Isaia et al. 2009).

On March 27th a new episode of blood oxygen desaturation (SpO₂ 82-88%) occurred, correlated with diarrhea but without fever. A second nasopharyngeal swab was done, which was positive for Covid-19 infection. According to recommendations from an infectious disease expert, the patient was treated only with supportive measures, including oxygen supplementation, parenteral nutrition, low-dose heparin, and corticosteroids (betamethasone 8 mg twice daily). It was not possible to administer hydroxychloroquine because she was unable to swallow, while the nasogastric tube was not judged suitable. On April 14th, the patient was clinically stable with apparently normal blood sample results (WBC 13300 cells/mm³, creatinine 0.3 mg/dL, LDH 653 UI/L, PCR 25.6 mg/L, 25-OH-D 27.5 ng/mL ferritin 1222 ng/mL, sodium 138 mmol/L, potassium 2.9 mmol/L). On April 18th, the patient manifested a worst of clinical conditions characterized by low blood saturation (SpO₂ 72-75%), dyspnea, and drowsiness. At this point, it was not reasonable to move the patient again to the hospital, and probably it was not indicated due to the general clinical

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conditions, so we treated her at home with high oxygen flows and intravenous azithromycin. On April 17th and 24th two other nasopharyngeal swabs were done and were still positive for Covid-19. After four days, the patient restored her normal ventilation reaching a saturation of 94% with low oxygen flows (3 liters per minute), and her consciousness increased. She did not show a fever during all this period. Contrary to what expected, on April 27th she died at her home without any other clinical manifestation.

DISCUSSION

This case report offers some clinical implications, but first we will try to answer to the following question: is the patient death for Covid-19? Probably, the patient described died for the worsening of general health status during Covid-19 infection rather than for the infection itself. Indeed, in frail, bedridden patients with dementia, poor nutrition, dehydration, and other clinical complications occur commonly during even mild infective illnesses, and are well-recognized risk factors for accelerated worsening health status and death, without the provision of adequate supportive measures. Activation of supportive actions in infected patients with mild disease and without indications for hospital admission might reduce the high mortality rates for Covid-19 infection which are increasingly reported from most long term facilities.

Other implications of this case report are the following. Older patients with dementia and Covid-19 infection may manifest mild and atypical symptoms. A negative nasopharyngeal swab does not exclude COVID-19 infection if there is a high clinical suspicion. Although these frail older patients have reduced

prospects to survive this infection, adequate supportive measures may improve survival even without the use of targeted therapies of uncertain and questionable benefits. In some patients, mainly older and frailty, the Covid-19 infection could last for more than two weeks and usually until the end of their life, but it is not known which the weight of their infection is and if they are contagious as a fit patient is. Finally, such supportive measures at home are possible and preferred to avoid or limit the hospital's contamination and virus diffusion.

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