Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

ing ambulance transport, with invasive mechanical ventilation and extracorporeal membrane oxygenation (ECMO) being relegated to the last step of treatment. The administration of inhaled therapy must be strictly supervised to avoid external contamination.[5]

At the prehospital level, we are faced with the problem of how to ventilate patients who are inefficient in oxygenation by means of a mask with a reservoir bag. In this case, the next step would be the use of NIV, but we have the risk of external contamination. As it is a high-flow ventilation, its use is limited to hospital rooms with negative pressure.

In this exceptional context that COVID-19 has generated, it is where we propose to assess the use of our device that, although we do not have randomized clinical trials (RCTs) that support its use, we think that it can be an alternative when there is no chance of performing mechanical ventilation, and especially for patients in whom the usual oxygen therapy techniques are not being effective enough, designed not to replace NIV but as an alternative in this context. With the 'oxygenation device with reservoir and PEEP' (ODRPEEP) (Fig. 1) we can oxygenate the patient with a reservoir bag in the inspiratory phase, and in the expiratory phase the inlet of the reservoir bag will be closed with the built-in valve and the exhalation will be done through a virus and bacteria-proof filter with a > 99.9% efficacy and a PEEP valve avoiding alveolar collapse thanks to a spring system. In addition, the device will allow us to safely apply inhaled drugs.

The inherent safety of this device is based on the fact that there is no external contamination thanks to the NIV mask, the low pressures inside and the exhalation through the filter. Even so, the authors recommend caution when applying and conducting RCTs that compare the results of ODRPEEP with NIV and determine if both options can be considered to have a certain therapeutic equivalence.

Funding

This article has not received any type of funding.

Conflict of interests

The authors declare no conflict of interest.

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Received 4 April 2020

https://doi.org/10.1016/j.medcle.2020.04.010

Hydroxychloroquine in the treatment of COVID-19: How to use it waiting for conclusive scientific evidence☆

Hidroxicloroquina en el tratamiento del COVID-19:cómo utilizarla a la espera de evidencia científica concluyente

To the Editor

To date, there is no effective treatment against the novel severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), responsible for the COVID-19 disease. Numerous clinical studies are evaluating the utility of antiviral and immunomodulatory drugs, where antimalarials such as chloroquine and hydroxychloroquine (HCQ) are one of the alternatives studied.[1]

So far, clinical experience in the use of HCQ arises mainly from treatment in patients with systemic lupus erythematosus (SLE), whose long-term effects show multiple benefits. However, high cumulative doses have been associated with serious adverse effects, especially in the retina and myocardium.[2]

Many healthcare protocols propose the use of HCQ in the treatment of COVID-19.[1] However, it is important to consider adverse myocardial effects, such as the development of severe arrhythmias.[3,4]

In the COVID-19 patient, possible cardiac involvement is mainly related to 4 factors: 1) underlying heart disease (often silent in older patients); 2) myocardial involvement caused by the infection and the inflammatory response itself, which leads to myocarditis with elevated troponins; 3) acute toxicity probably associated with the use of antimalarials in high doses, more evident in chloroquine treatments and 4) concomitant use of other treatments that, together with HCQ, prolong the corrected QT interval (QTc), with the risk of serious ventricular arrhythmias.[3–5]

In the absence (pending) of conclusive scientific evidence, what considerations should be taken into account when using HCQ in the treatment of COVID-19? It is necessary to change the way in which HCQ is usually used in patients with SLE, adapting its prescription and control of potential adverse effects to this new therapeutic scenario. The following considerations aim to optimize the HCQ treatment of COVID-19:

- When the doctor considers that HCQ can be useful, it should be initiated as early as possible after diagnosing the infection, due to the decrease in viral replication and dissemination demonstrated *in vitro* and *in vivo*.[1]
- Using HCQ in an acute treatment (5 days), with loading dose (400 mg/every 12 h) the first day and 4 days of maintenance (200 mg/every 12 h), after requesting an informed medical consent (with COVID-19 being an indication not contemplated in the SmPC).
- Minimize the risk of prolonged QTc. For this, a baseline electrocardiogram (ECG) must be performed prior to the start of treatment. If the QTc is greater than or equal to 500 ms, HCQ should not be started. If the QTc is less than 470 ms in men or less than 480 ms in women, treatment can be initiated, repeating the ECG in 48 h. If the QTc is greater than or equal to 500 ms or an increase greater than or equal to 60 ms is observed, treatment should be discontinued.[4]
- Avoid or discontinue the simultaneous use of drugs that prolong the QTc, particularly azithromycin, clarithromycin, levofloxacin, moxifloxacin, ciprofloxacin, haloperidol, quetiapine, risperidone, domperidone and ondansetron, among others.[4,5]

☆ Please cite this article as: Cairoli E, Espinosa G. Hidroxicloroquina en el tratamiento del COVID-19: cómo utilizarla a la espera de evidencia científica concluyente. Med Clin (Barc). 2020;155:134–135.

- Keep a close watch on potassium, calcium and magnesium levels due to their arrhythmogenic potential, as well as glycemia in patients with diabetes due to the risk of hypoglycaemia.[4]
- Consider not administering or discontinuing HCQ in advanced stages of infection due to the possibility of a COVID-19-induced myocarditis.[3,5]
- It is not necessary to adjust the dose based on renal or hepatic function, nor does it require ophthalmological control before or after treatment.[6]
- Pending the result of several active studies, HCQ should not be indicated prophylactically as there is no evidence to support its preventive use or post-exposure to avoid COVID-19 infection.

In short, when prescribing HCQ in COVID-19, different precautions should be taken from those currently considered for SLE patients. It should be indicated in its window of opportunity and consider the existing multifactorial myocardial involvement, seeking to avoid cardiovascular adverse effects. The results of different controlled and randomized studies that confirm or refute the usefulness of HCQ in the treatment of COVID-19 will contribute to define its role in this clinical setting.

Funding

The authors declare that they have not received funding to carry out this study.

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https://doi.org/10.1016/j.medcle.2020.05.003

Oerskovia turbata infection☆

Infección por Oerskovia turbata

Dear Editor:

Oerskovia spp. is a branching Gram-positive bacillus belonging to the family *Actinomycetaceae*. Classically the genus is made up of 2 species: *Oerskovia turbata* and *Oerskovia xanthineolytica*.[1] It is a ubiquitous microorganism that has been identified in soil, grass cuttings and in aluminium hydroxide gel. *Oerskovia turbata* is not a common pathogen in humans but has been connected with sporadic cases of infection such as bacteraemia, endocarditis, or peritonitis.[2–4] For this reason, it seemed appropriate to report a new clinical case and review the literature on *Oerskovia turbata*.

A 78-year-old male who was admitted due to an acute loss of strength in the left side of his body and aphasia. The patient was institutionalized, was dependent and suffered from cognitive impairment, and also had a personal history of high blood pressure, chronic hydrocephalus in adults with a ventriculoperitoneal shunt. He was undergoing treatment with acetylsalicylic acid, telmisartan, furosemide, carbidopa/levodopa, galantamine and tiotropium. Furthermore, 20 days before admission, he had received treatment with prednisone and clavulanic amoxicillin for symptoms compatible with respiratory infection.

Physical examination revealed signs of dehydration, grade 3 proximal and distal left hemiparesis, and motor and sensory aphasia, with no abnormalities in cardiac auscultation, stigmata of endocarditis, or other relevant abnormalities.

Laboratory results showed glucose 800 mg/dl, urea 134 mg/dl, creatinine 1.6 ng/dl, sodium 160 mEq/l, potassium 4.1 mEq/l, 16,400 white blood cells/mm^3, haemoglobin 15.7 g/dl and 93,000 platelets. A brain CT scan did not show any pathological findings. Urine culture was negative. A lumbar puncture was carried out, observing no biochemical abnormalities and no microbiological growth in the CSF. Chest X-ray was normal.

The patient was treated with sera and insulin, with a good response and neurological focus remission. Three days after admission, the patient's temperature raised to 38.2 °C reason why blood cultures were obtained. Due to the possibility of central nervous system involvement associated with the ventriculoperitoneal shunt, empirical antibiotic therapy with linezolid was initiated for 14 days without recurrence of fever and with good progression.

Blood cultures were positive after 3 days of incubation; Gram-staining showed branching Gram-positive bacilli. Subcultures were performed on blood agar and chocolate agar incubated in a 5% CO_2 atmosphere at 35 ± 2 °C; weak grey, catalase-positive colonies grew after 24 h. The Ziehl-Neelsen and Kinyoun staining were negative. The identification through biochemical tests was carried out using the API® CORYNE (bioMerieux) strips and mass spectrometry with VITEK® MS (bioMerieux), both being positive for *Oerskovia turbata*. The diagnosis was confirmed by 16S rRNA gene sequencing.

An antimicrobial susceptibility profile was performed using the E-test® method following the EUCAS standards for *Corynebacterium* spp. (MIC mg/l): cotrimoxazole (<0.01); amoxicillin/clavulanic acid[2]; imipenem (0.5); ciprofloxacin[1]; clarithromycin[1]; linezolid[1]; minocycline (0.25); amikacin.[2]

Our patient was finally diagnosed with bacteraemia due to *O. turbata* associated with dehydration due to nonketotic hyperosmolar diabetic decompensation that manifested as left hemiparesis. Although we do not know with certainty the entry route, our hypothesis is a skin lesion produced during mobilization since it was a dependent patient.

☆ Please cite this article as: Hernández Martínez P, Santiago Setién I, de Malet Pintos-Fonseca A. Infección por *Oerskovia turbata*. Med Clin (Barc). 2020;155:135–136.