07 Apr 20 - 11:40

HDAS Export

Strategy Evidence for the combination of Hydroxychloroquine and Azithromycin improving clinical outcomes with Covid-19

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**1. Macrolide treatment for COVID-19: Will this be the way forward?**

**Author(s):** Ohe M; Shida H; Jodo S; Kusunoki Y; Seki M; Furuya K; Goudarzi H

**Source:** Bioscience trends; Apr 2020

**Publication Date:** Apr 2020

**Publication Type(s):** Journal Article

**PubMedID:** 32249257

Available at [BioScience Trends](http://search.ebscohost.com/login.aspx?direct=true&scope=site&site=ehost-live&db=mdc&AN=32249257) - from EBSCO (MEDLINE Complete)

Available at [BioScience Trends](http://www.uhl-library.nhs.uk/directpages/uhlblarticles.html) - from Available to NHS staff on request from UHL Libraries & Information Services (from non-NHS library) - click this link for more information Local Print Collection [location] : British Library via UHL Libraries - please click link to request article.

**Abstract:**The severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) pandemic that has developed in late 2019 and 2020 is a serious threat to human health. With no vaccines or drugs approved for prevention and treatment until now, all efforts at drug design and/or clinical trials of already approved drugs are worthy and creditable. Using structure-based drug selection for identification of SARS-CoV-2 protease inhibitors, old drugs such as macrolides (MAC) were predicted to be effective for COVID-19. Lately, the anti-viral effects of macrolides have attracted considerable attention. Very recently, hydroxychloroquine in combination with azithromycin treatment was reported to be effective for COVID-19. We believe that treatments with macrolides alone or in combination with other drugs are promising and open the possibility of an international strategy to fight this emerging viral infection.

**Database:** PubMed

**2. COVID-19 and chronological aging: senolytics and other anti-aging drugs for the treatment or prevention of corona virus infection?**

**Author(s):** Sargiacomo C; Sotgia F; Lisanti MP

**Source:** Aging; Mar 2020

**Publication Date:** Mar 2020

**Publication Type(s):** Journal Article

**PubMedID:** 32229706

Available at [Aging](http://europepmc.org/search?query=(DOI:10.18632/aging.103001)) - from Europe PubMed Central - Open Access

**Abstract:**COVID-19, also known as SARS-CoV-2, is a new emerging zoonotic corona virus of the SARS (Severe Acute Respiratory Syndrome) and the MERS (Middle East Respiratory Syndrome) family. COVID-19 originated in China and spread world-wide, resulting in the pandemic of 2020. For some reason, COVID-19 shows a considerably higher mortality rate in patients with advanced chronological age. This begs the question as to whether there is a functional association between COVID-19 infection and the process of chronological aging. Two host receptors have been proposed for COVID-19. One is CD26 and the other is ACE-2 (angiotensin-converting enzyme 2). Interestingly, both CD26 and the angiotensin system show associations with senescence. Similarly, two proposed therapeutics for the treatment of COVID-19 infection are Azithromycin and Quercetin, both drugs with significant senolytic activity. Also, Chloroquine-related compounds inhibit the induction of the well-known senescence marker, Beta-galactosidase. Other anti-aging drugs should also be considered, such as Rapamycin and Doxycycline, as they behave as inhibitors of protein synthesis, blocking both SASP and viral replication. Therefore, we wish to speculate that the fight against COVID-19 disease should involve testing the hypothesis that senolytics and other anti-aging drugs may have a prominent role in preventing the transmission of the virus, as well as aid in its treatment. Thus, we propose that new clinical trials may be warranted, as several senolytic and anti-aging therapeutics are existing FDA-approved drugs, with excellent safety profiles, and would be readily available for drug repurposing efforts. As Azithromycin and Doxycycline are both commonly used antibiotics that inhibit viral replication and IL-6 production, we may want to consider this general class of antibiotics that functionally inhibits cellular protein synthesis as a side-effect, for the treatment and prevention of COVID-19 disease.

**Database:** PubMed

**3. Hydroxychloroquine and azithromycin as a treatment of COVID-19: results of an open-label non-randomized clinical trial.**

**Author(s):** Gautret P; Lagier JC; Parola P; Hoang VT; Meddeb L; Mailhe M; Doudier B; Courjon J; Giordanengo V; Vieira VE; Dupont HT; Honoré S; Colson P; Chabrière E; La Scola B; Rolain JM; Brouqui P; Raoult D

**Source:** International journal of antimicrobial agents; Mar 2020 ; p. 105949

**Publication Date:** Mar 2020

**Publication Type(s):** Journal Article

**PubMedID:** 32205204

Available at [International journal of antimicrobial agents](http://www.uhl-library.nhs.uk/directpages/uhlblarticles.html) - from Available to NHS staff on request from UHL Libraries & Information Services (from non-NHS library) - click this link for more information Local Print Collection [location] : British Library via UHL Libraries - please click link to request article.

Available at [International journal of antimicrobial agents](https://doi.org/10.1016/j.ijantimicag.2020.105949) - from Unpaywall

**Abstract:**BACKGROUND: Chloroquine and hydroxychloroquine have been found to be efficient on SARS-CoV-2, and reported to be efficient in Chinese COV-19 patients. We evaluate the role of hydroxychloroquine on respiratory viral loads.PATIENTS AND METHODS: French Confirmed COVID-19 patients were included in a single arm protocol from early March to March 16th, to receive 600mg of hydroxychloroquine daily and their viral load in nasopharyngeal swabs was tested daily in a hospital setting. Depending on their clinical presentation, azithromycin was added to the treatment. Untreated patients from another center and cases refusing the protocol were included as negative controls. Presence and absence of virus at Day6-post inclusion was considered the end point.RESULTS: Six patients were asymptomatic, 22 had upper respiratory tract infection symptoms and eight had lower respiratory tract infection symptoms. Twenty cases were treated in this study and showed a significant reduction of the viral carriage at D6-post inclusion compared to controls, and much lower average carrying duration than reported of untreated patients in the literature. Azithromycin added to hydroxychloroquine was significantly more efficient for virus elimination.CONCLUSION: Despite its small sample size our survey shows that hydroxychloroquine treatment is significantly associated with viral load reduction/disappearance in COVID-19 patients and its effect is reinforced by azithromycin.

**Database:** PubMed

**4. Macrolides in critically ill patients with Middle East Respiratory Syndrome.**

**Author(s):** Arabi YM; Deeb AM; Al-Hameed F; Mandourah Y; Almekhlafi GA; Sindi AA; Al-Omari A; Shalhoub S; Mady A; Alraddadi B; Almotairi A; Al Khatib K; Abdulmomen A; Qushmaq I; Solaiman O; Al-Aithan AM; Al-Raddadi R; Ragab A; Al Harthy A; Kharaba A; Jose J; Dabbagh T; Fowler RA; Balkhy HH; Merson L; Hayden FG; Saudi Critical Care Trials group

**Source:** International journal of infectious diseases : IJID : official publication of the International Society for Infectious Diseases; Apr 2019; vol. 81 ; p. 184-190

**Publication Date:** Apr 2019

**Publication Type(s):** Journal Article; Multicenter Study

**PubMedID:** 30690213

Available at [International journal of infectious diseases : IJID : official publication of the International Society for Infectious Diseases](http://www.uhl-library.nhs.uk/directpages/uhlblarticles.html) - from Available to NHS staff on request from UHL Libraries & Information Services (from non-NHS library) - click this link for more information Local Print Collection [location] : British Library via UHL Libraries - please click link to request article.

Available at [International journal of infectious diseases : IJID : official publication of the International Society for Infectious Diseases](http://www.ijidonline.com/article/S1201971219300529/pdf) - from Unpaywall

**Abstract:**OBJECTIVES: Macrolides have been reported to be associated with improved outcomes in patients with viral pneumonia related to influenza and other viruses, possibly because of their immune-modulatory effects. Macrolides have frequently been used in patients with Middle East Respiratory Syndrome (MERS). This study investigated the association of macrolides with 90-day mortality and MERS coronavirus (CoV) RNA clearance in critically ill patients with MERS.METHODS: This retrospective analysis of a multicenter cohort database included 14 tertiary-care hospitals in five cities in Saudi Arabia. Multivariate logistic-regression analysis was used to determine the association of macrolide therapy with 90-day mortality, and the Cox-proportional hazard model to determine the association of macrolide therapy with MERS-CoV RNA clearance.RESULTS: Of 349 critically ill MERS patients, 136 (39%) received macrolide therapy. Azithromycin was most commonly used (97/136; 71.3%). Macrolide therapy was commonly started before the patient arrived in the intensive care unit (ICU) (51/136; 37.5%), or on day1 in ICU (53/136; 39%). On admission to ICU, the baseline characteristics of patients who received and did not receive macrolides were similar, including demographic data and sequential organ failure assessment score. However, patients who received macrolides were more likely to be admitted with community-acquired MERS (P=0.02). Macrolide therapy was not independently associated with a significant difference in 90-day mortality (adjusted odds ratio [OR]: 0.84; 95% confidence interval [CI] :0.47-1.51; P=0.56) or MERS-CoV RNA clearance (adjusted HR: 0.88; 95% CI:0.47-1.64; P=0.68).CONCLUSIONS: These findings indicate that macrolide therapy is not associated with a reduction in 90-day mortality or improvement in MERS-CoV RNA clearance.

**Database:** PubMed

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| **#** | **Database** | **Search term** | **Results** |
| 1 | PubMed | (Hydroxychloroquine\*).ti,ab | 4941 |
| 2 | PubMed | (chloroquine\*).ti,ab | 21574 |
| 3 | PubMed | (Plaquenil\*).ti,ab | 132 |
| 4 | PubMed | (Aralen\*).ti,ab | 46 |
| 5 | PubMed | (ercoquin\*).ti,ab | 1 |
| 6 | PubMed | (Quensyl\* OR macrolide\*).ti,ab | 23435 |
| 7 | PubMed | (1 OR 2 OR 3 OR 4 OR 5 OR 6) | 48992 |
| 8 | PubMed | ("Covid-19" OR Coronavirus OR "Corona virus" OR "2019-nCov" OR "SARS-COV2 " OR Covid OR "novel Betacov" OR "novel betacoronavirus").ti,ab | 17995 |
| 9 | PubMed | (azithromycin\*).ti,ab | 9066 |
| 10 | PubMed | (zithromax\* OR "Z-pak" OR Zmax).ti,ab | 423 |
| 11 | PubMed | (zitromax\* OR azithrocin).ti,ab | 5 |
| 12 | PubMed | (Azadose\*).ti,ab | 1 |
| 13 | PubMed | (Azax\* OR Azitral\*).ti,ab | 81 |
| 14 | PubMed | (9 OR 10 OR 11 OR 12 OR 13) | 9521 |
| 15 | PubMed | (7 AND 8 AND 14) | 4 |