

Should we Recommend Treating Mild Forms of Covid-19 Viral Infection in Young Men for Fear of Indirect Contagious Hypo Fertility?

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Abstract

At the end of 2019, a global pandemic appeared first in China concerning a viral infection which quickly spread around the world concerning a new mutant of the Coronavirus called COVID-19 with active inter human transmission mainly by hands and more intense than the influenza virus flu. The clinical features are polymorphic, it can range from mild asymptomatic or even pauci-symptomatic forms (anosmia, conjunctivitis) to multi-visceral disorders such as acute respiratory distress syndrome, cytokine storm syndrome, acute renal failure, myocarditis, hematological disorders (thrombocytopenia) which cause death in frail people (elderly, diabetic) and patients with compromised immune system.

The pathophysiological mechanism implicated in severe forms is linked to the direct cyto-pathogenic effect of the virus. In addition, hypofertility has been reported in infected people and recovered from covid-19 this has been linked to an effect on ACE2 receptors then disturb local testicular immunity causing orchitis.

Currently, if everyone agrees on social distancing, a big controversy has been observed concerning the indications for antiviral medical therapy such as hydroxychloroquine proposed by the Chinese and approved by Professor RAULT. The specialists are divided into two groups, some are in favor of this treatment in particular for the moderate forms to prevent respiratory distress and others against this therapeutic protocol being justified by the toxicity of these drugs and the lack of recession of their use in full viral infection. The aim of this paper is to try to establish an indication of this treatment for moderate forms mainly in men who risk a little documented gonadal insufficiency even after recovery from this infection.

Introduction

Coronavirus is an RNA virus transmitted to humans through Bats [1]. After the registration of the first case which could not be identified, there was an active human-to-human transmission mainly by the hands [2]. There are several forms linked to this virus of which the moderate form due to SARS-COV-2 made of banal symptoms constitutes the most common presentation that is 80% of all forms [3]. Nevertheless, there are severe forms for which medical treatment is not indicated but rather an intubation [3]. The severity factors of this virus are the comorbidities which make that the evolution takes place towards a severe form or if it already exists becomes complicated and ends up causing mortality such as: advanced age, High blood pressure, uncontrolled diabetes complicated by comorbidities, chronic respiratory pathologies [4].

The treatments that exist against covid-19 are:

- A. Mandatory containment in order to reduce the exponential spread of contagion as observed in Italy and what has been avoided in China.
- B. Medical treatments like Anti-viral drugs and hydroxy chloroquine.
- C. Intubation and artificial respirators for severe forms, avoiding mask ventilation which risks spreading the virus [3].

A correlation between the respiratory symptoms and chest CT has been observed. The main goal of medical treatment is to reduce the viral load allowing faster healing and thus avoiding a progression to a severe form potentially life-threatening. We know that a small percentage evolves towards severe form; however, the question concerns millions of patients, which means that the low percentage can become a large number of patients. The treatment that exist with relevance to COVID-19 infection may involve nutritional therapy that may activate the anti-aging genes that are critical to prevent severity of the COVID-19 infection connected to infertility. The COVID-19 virus may inactivate the anti-aging gene that is linked to hypothalamic-pituitary disorders, multiple organ disease syndrome and infertility. The eminent professor didier RAOULT working at INSERM Marseille in France approved the use of hydroxy chloroquine through a clinical trial showing a more rapid drop in viral load after 2 days versus 5 days during use of social distancing without medical treatment. This clinical trial was justified by the hindsight we have with this molecule, whether in the treatment of malaria or in connectivitis such as lupus and polyarthritis [5].

In addition, some authors believe that the virus can contaminate the male gonads (like other viruses such as SARS, mumps) the physiopathological mechanism that explained this tropism is the presence of ACE2 receptors in testis [6]. It is in this sense that a publication on South China Morning post by Mandy Zuo who wrote on MARCH 12, 2020 that Wuhan hospital shared on social networks that patients who have been infected with this virus and even after recovery should benefit from a consultation in endocrinology concerning the evaluation of their gonadal function nevertheless this publication was quickly deleted according to the same source. This hypothesis can be confronted by the fact that it is a biological war between two invisible adversaries using an invisible weapon which is the covid-19 virus.

And if it is really a question of bioterrorism with the aim is to reduce the economic evolution or the number of the population whether it is through severe forms which kill the fragile people (generally Europeans) or moderate forms which by compromising the fertility of patients with a robust immune system, which have a delayed effect on the selection of populations (generally Africans and Asians). In fact, viruses can be classified as fatal viruses for humans such as IBOLA or potentially dangerous virus responsible for pathologies in varying severity such as coronavirus. Some specialists in infectious diseases claim that this treatment should not be used immediately since this molecule (hydroxy chloroquine) is not devoid of side effects and that there is not enough reverses with this treatment in the COVID-19 infection. These same authors believe that the vaccine is the only specific treatment against the virus and are justified by the objective of targeting precise sequencing of the virus but the only problem is that it may take a long time to come. Furthermore, the fact that the Chinese authorities deleted the publication of Wuhan Hospital after a few hours of its appearance and which certifies the secondary hypo fertility to the virus without justifying authorities not this action is eliminated this

assumption which sowed a second controversy which concerned at the beginning only the treatment and extended after to the prognosis of fertility in the infected patients then recovered.

Personally, I think that antiviral treatment is essential given the fatal danger on a large number of populations. The main goal of this paper is to propose a clinical study project confronting the hypothesis of treating male patients carrying mild form even if by excess in order to avoid the risk of subsequent hypo fertility. If it turns out that COVID-19 hypo fertility is real and linked to viral charge in this case it will be more logical to give medical treatment in order to accelerate the healing process and avoid indirect contagious hypo fertility.

Hence the interest in conducting clinical studies, the protocol of which will be as follows:

1. Concerned population is made up of male patients.
2. First carry out a viral charge assay as well as a spermogram then we separate the infected patients with moderate form into two groups.

In the first group we practiced only social distancing and a second group will be put under hydroxy chloroquine treatment. Try to eliminate bias like viral charge difference between the two groups. We compare for both groups the appearance of orchitis by testicular ultrasound and an FSH assay as well as a spermogram control. Subsequently and after healing of the viral infection, try to establish a correlation between the viral charge and male hypo fertility.

Conclusion

This debate concerns several points such as the real consequences of this pandemic on the health of individuals and on the policy of the various countries but also tries to ask the therapeutic indications of anti-viral drugs. Depending on results of the presented project of the study that I have explained its role on clarifying therapeutic indications of medical treatment. If it turns out that patients who have received medical treatment will have less hypo fertility compared to the group who only benefited from social distancing, in this case the therapeutic indication could be generalized as much more if it will be confirmed that the hypo fertility is correlated with the viral charge in covid-19.

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