

The antiviral natural activity of Camel Milk (CM, and its bioactive therapeutic components such as nano-immunoglobulins, lactoferrin, and glycoproteins, clues to Covid-19 therapies.

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Abstract

The current pioneer project incited from the combination opinions, thought, research efforts and long experiences on the related fields by our team colleagues above. The presence of natural antimicrobial activities presents in the CM, which is almost 10 folds more than the cow's milk, and/or other types of animal milks. It is quite known that CM is highly close to human mother's milk and considered as supper food and white gold for its nutrient's beneficial properties [1-3]. This shows for us a golden opportunity to be tested innocuous natural treatment for patients with COVID-19 infection [4,5]

It has been shown that in many countries of the Middle East, Africa, and Asian countries, that they use it very frequently as natural nutrients, also as medication beverage for their health benefits [5-6]. The Camel Milk (CM) contains rich therapeutic biocomponent nutrients, such as vitamins, electrolytes, peptidoglycans recognition, lactoferrin, and lysozyme. Also, has potential effect in treating many well-known diseases such as Diabetes Mellitus, allergies, autism, crohn's disease, viral hepatitis, malignancies, anti-infectious, and auto-immune diseases. All these medical properties attract us to try the natural CM or their bioactive products as an excellent option to treat the Covid-19 [7].

On the other hand, some interesting publication reports demonstrated that camels are host to show good immune response to MERS-2 virus, their essential immune defense factors made us focus on the rare immunological natural existence and high affinity activity of the unique mono heavy chains of the CM Nanoimmunoglobulins (nIgs), which can easily pass through the whole intestinal ducts, kidney basement membranes (glomeruli), and brain tissues. Also, have supper antiviral activity (ies) [8].

These interesting molecules are stable at high temperature, can neutralize viruses in infected cells, resist to the activity of digestive enzymes in stomach, can easily pass through the whole intestinal ducts and have high affinity against many other germs [9].

All these extra characteristics of the CM together brought up the idea of building up this project to hopefully applying it *in vitro* and *in vivo* as a natural therapy against the most dangerous virus worldwide in the last 100 years ago, which is called the MERS-Covid-2 or Covid-19 by the WHO [10].

Materials and Methods

The methodology that we suggest is as the followings

Orally fresh CM: The dose of (500-1000 raw fresh pasteurized (CM/patient/day) in 2-3 doses for 2-3 weeks according to the severity of the disease, (mild, moderate, severe or critical) [1].

Powder CM: When the fresh milk is not available in the region, we recommend oral administrating powder CM 100 gram/day/patient (100 grams resolved in 900 ml water) in 2-3 divided doses for 2-3 weeks as above.

Colostrum CM: The CM colostrum is very rich in these active biochemical components', mainly Lactoferrins (LF) and Nanoimmunoglobulins (nIgs). The oral dosage is (100 ml/day/patient) as single dose and as mentioned above.

Purified pharmaceutical and biochemical oral administration highly selective active ingredient of Nanoantibodies (nIgs) [2,5,9]. Some fundamental clinical, laboratory, and statistical parameters will have to be considered pre and post-treatment to measure and determine the results of our treatments.

Alternatively, proposed method for treatment could be the oral administration of the Nanoantibodies of the CM from its natural liquid form, colostrum or urine after isolation and purification in step 4 [9]. These elements can be absorbed and

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pass the GIT easily and not destroyed by gastric enzymes [3-6,8]. Also, they can penetrate directly inside the cells and destroy the target virus RNA, by inhibition replications of the virus and virucidal activity also with no harm to the body metabolic functions [1-3,5,8]. Blood parameters of the patients can be designed to be measured.

We were unable to run off our *in vitro* and *in vivo* experiments until date because of the limitations of laboratory and medical equipment, also, the routine bureaucracy issues in our countries, therefore we are writing to you hoping and seeking your kind scientific help and collaborations to save people of the whole world from this horrible pandemic corona virus (Covid-19), which has dramatically and economically affected the world and changed the health system and strategies of protocols of therapy, by using valuable, very active natural and quite safe way of biomedical therapy to eliminate this virus at least from our infected patients, and also for the rest countries of the world's population [10]

We are ready to share with you, your scientific opinions, administrations and rights hoping to get into an agreement between us of how to run the laboratory *in vitro* and *in vivo* administrations work. Also, to set up clear mapping and date when to start up, and you have the right to decide where to work and how according to the reference agreement grant and funding.

Your sponsorship will be most helpful to us and to the world. Waiting for your kind reply for review publication in your scientific journal, also for round table discussion virtually or online.

Thank you very much in anticipation.

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