

## Research Article

# Looking for Molecular Changes in Blood of Cancer Patients after Applying IWCT. (A Scientific Hypothesis to Test)

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Cancer cells cause the number of white blood cells to reduce, weaken the immune system, and promote angiogenic factors to build special arterial networks or to co-obtain blood, lymph and primo vessels that are already existed and allow them to make tumor microenvironment with a high quantity of specific nutrients and oxygen received from patient's blood and fluids; so that they are able to proliferate and spread from their primary site. In this study we aim to normalize tumor environment by extracting the tumorigenic nutrients from patient's blood, lymph and primo vascular system, starve cancer cells in where they were first formed, and boost immune system by assessing, for the first time, if Islamic Wet Cupping Therapy could clear the blood and body fluids from that specific substances and strengthen the immune system to let the body itself to fight against cancer.

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**INTRODUCTION-** Cancer cells are invaders that mislead, weaken the immune system, and drop the number of white blood cells (WBCs). Complicated arterial networks or even co-obtained blood, lymph and primo vessels from pre-existing ones feed cancer cells and provide them a friendly microenvironment where they can proliferate and spread to other parts of the body. <sup>[1]</sup>

The arterial network and blood, lymph and primo vessels enable them to receive nutrition from patient's blood and fluids. Cancer cells demand multiplex nutrients – such as acetate, glucose, glutamine, oleic acids, linolenic acid, short chain fatty acids: butyrate and propionate, FA beta-oxidation, lisolipids, plasma free amino acids (AAs): ornithine, glutamic acid and free tryptophan and inflammation signatures and etcetera – to divide and spread quickly.<sup>[2] [3][4][5]</sup>

## THIS STUDY AIMS-

1. To make changes in and normalize tumor microenvironment by extracting those additional multiplex nutrients demanded by cancer cells together with disease-related substances and send them away of blood and interstitial fluids based on their size differences, and
2. To boost immune system

both of these aims would be hoped to achieve simultaneously by applying Islamic Wet Cupping Therapy (IWCT).

IWCT acts as a vacuum to create negative pressure through suction and it may cause the lighter hydrophobic and hydrophilic substances, the multiplex nutrients demanded by cancer cells, to separate from other blood and body fluids components and suck them out.

IWCT- also called Wet Cupping Therapy (WCT) is an old therapeutic technique to excrete waste or excess metabolic products from blood and interstitial fluids. In this technique a particular glass linked to a cupping pump creates a negative pressure to suck the viscoelastic skin in particular parts of the body specially in intrascapular area to raise blood volume, reduce pressure and to cause hyperemia thus increases capillary's filtration under the cup. It should be noted that the capillary networks with low blood velocity would be a point beside the primo vessels to deposit the harmful substances. The cup then is removed and a scalpel used to make small incisions on epidermis, the cup is replaced again and suction is repeated several times to let blood and interstitial fluids drain from capillary networks with no returning to their venous end<sup>[6]</sup>.

According to the Taibah mechanism presented in 2013 and based on scientific studies, this treatment showed desired results to improve different pathological conditions.<sup>[7][8][9][10][11]</sup>

Taibah mechanism illustrates the excretion that simulates renal glomerular filtration and abscess drainage. In this procedure a precutaneous excretion happens through skin capillaries in intrascapular area to clear blood and interstitial fluids from harmful substances or defined as causative pathological substances (CPS).<sup>[12]</sup> Some studies showed the excretion of triglycerides low-density lipoprotein (LDL), cholesterol, total cholesterol, uric acid, inflammatory mediators, and immunoglobulin antibodies (rheumatoid factors), and also the reduction in pain severity, number of swollen joints and disease activity without any side effects after applying IWCT.<sup>[9][11][12]</sup>

The intrascapular area where the cup will be usually positioned, on the brown adipose tissue (BAT) full of blood, lymph and primo vessels <sup>[13]</sup>, is close to the sympathetic ganglia, the thoracic duct and the main vessels from heart and brain.<sup>[6]</sup>

The Primo Vascular System (PVS) surrounds and is connected to tumor tissue and the primo fluid is a more effective place for tumor cells to circulate in body. <sup>[13]</sup> Some studies suggest the PVS as a potential metastasis rout beside lymphatic and hematologic systems.<sup>[14] [15]</sup>

According to the pioneering work of Dr. William Coley and his daughter, Dr. Helen Coley Nauts, on cancer immunotherapy presented in 1980s, the second target of this study (as mentioned briefly) while trying to get rid of tumorigenic nutrients and disease-related substances or CPS from patient's blood and fluids follows the stimulating innate immune system via size-dependent and pressure-dependent stress of IWCT. IWCT improves the natural immunity and decrease auto-antibodies, inflammatory mediators, and ferritin in serum.<sup>[12]</sup>

**METHODS-** This study is going to, for the first time, analyze the Venus blood of patients before and after applying IWCT together with the cupping blood itself to see if this therapeutic technique may make any molecular changes in and normalize blood of cancer patients to support the giving predictions.

So far all the analyses and scientific studies on wet cupping therapy in different pathological conditions but not in cancer have compared the Venus blood sample before applying wet cupping therapy with cupping blood. But the problem with this comparison would be that because of suction the analyzed factors are obviously more concentrated in cupping blood rather than in Venus blood so this comparison won't give a clear result on what positive changes this technique may make into the blood.

We are going to apply the mentioned technique, for the first time, on cancer patients and to not just compare the Venus blood with cupping blood but also the Venus blood before IWCT with Venus blood after IWCT that can hopefully confirm whether the positive changes in blood have truly occurred if any.

To doing so it should be studied:

1. If IWCT could create circulatory shear stress that breaks the built tolerance between host and tumor and adapts immune responses to provoke anti-tumor effects; these effects may include the production of Natural Killers (NKs) and decreasing cytokines interleukins 6/8 that prevent circulating tumor cells (CTCs) from metastasis,<sup>[16]</sup>

2. If IWCT is also able to make any changes in expression of Plakoglobin as the adhesion protein that keeps the CTCs' cluster,<sup>[16][17]</sup>
3. If IWCT affects the CTCs' mitochondrial activity and if it is able to decrease mitochondrial/ oxidative phosphorylation as this phosphorylation is essential for cancer cells motility. <sup>[18]</sup>
4. In addition, pressure-dependent effects of IWCT may be able to take out CTCs, which can be found in the white blood cells (WBCs) fraction and in PVS. CTCs are generally larger than WBCs<sup>[19]</sup>. The suction created in IWCT may be able to capture and take the CTCs out of blood and body fluids.
5. Different cancer biomarkers and molecules should be also tested to assess any possible alteration of these factors in blood and body fluids of cancer patients after applying IWCT.

**CONCLUSION-** Considering Islamic Wet Cupping Therapy as a scientific method and test it as a new procedure to fight against cancer may lead us to target the tumor microenvironment and hunger cancer cells in their primary place and promote the immune system. According to this hypothesis the cancer cells then become starved and could be easily destroyed by a strong immune system in a microenvironment that is not anymore belonging to them.

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