

Anti-Cancer Thermotherapy is Based on Negative Electrification of Tumors and Blood

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Abstract

Considering water to be the basic substance of all living things, McIntyre hypothesized that it is the excessive hydration of cells that is a necessary condition for their unlimited division, characteristic of cancer. Taking McIntyre's hypothesis as an axiom and developing it further, it was shown that cells are capable of accumulating only positively charged water, which naturally led to the assumption that positive electrification of human tissues contributes to their transformation into cancerous ones. At the same time, it was shown that cells cannot retain negatively charged water, which naturally led to the assumption that the common basis of all types of anticancer therapy is the negative electrification of tumors. Over time, when various types of anti-cancer therapy were analysed in terms of the assumptions made, it was concluded that they were completely correct. To once again demonstrate this very correctness, it is shown here that the therapeutic effect of anticancer thermotherapy is also based on its ability to cause negative electrification of tumors and blood.

Keywords: hyperthermia; cancer; cryotherapy; thrombolysis

Introduction

The fact that water is the main substance of every living cell [1 – 3] undoubtedly indicates that the accumulation of water by cells is a necessary prerequisite for their division; moreover, this same fact also allows concluding that without this accumulation, cell division is completely impossible. Apparently, taking into account precisely this fact, McIntyre hypothesized that it is the excessive accumulation of water by cells that is a necessary condition for their division, including unlimited division, which is characteristic of cancerous tissues [4, 5]. However, McIntyre's hypothesis, despite its appeal, did not offer ways to regulate water accumulation in cells and therefore remained idealistic. Taking into account this idealism of McIntyre's hypothesis and in an effort to make it more practical, electrification of water was proposed as a means of controlling its accumulation in cells. When putting forward this idea, it was taken into account that positively charged water is capable of

hydrating various intracellular substances, including biopolymers, while negatively charged water is completely incapable of this [6, 7].

To be convinced of the difference in the hydrating abilities of water with opposite charges, it is worth familiarizing yourself with the results obtained when studying the swelling of starch powder in positively and negatively charged waters (Figure 1), as well as with the results obtained when studying the crystallization of salts in both of these waters (Figure 2).

Thus, given such a radical difference in the hydration properties of oppositely charged waters (Figures 1, 2), it was assumed that different tissues of the human body can retain only positively charged water, thereby creating conditions favorable for the division of their cells, including the unlimited division characteristic of tissues affected by cancer (that is, in full accordance with McIntyre's hypothesis [4, 5]).



Figure 1: Starch swelling in water with different electrical potentials. Starch does not swell in water with a potential of -500 mV for several months (left) and swells in water with a potential of $+500$ mV within approximately 20 minutes (right); the water temperature in both cases was $20 - 22$ °C [7].

Negatively charged water was produced by passing hydrogen gas through uncharged water (left), and positively charged water was produced by passing oxygen gas through uncharged water (right), as described in [8].

Note: Since positively charged water has a unique penetrating ability, it evaporates quickly even from a closed plastic flagon: the black arrow shows how much the water level has dropped during the day [7].

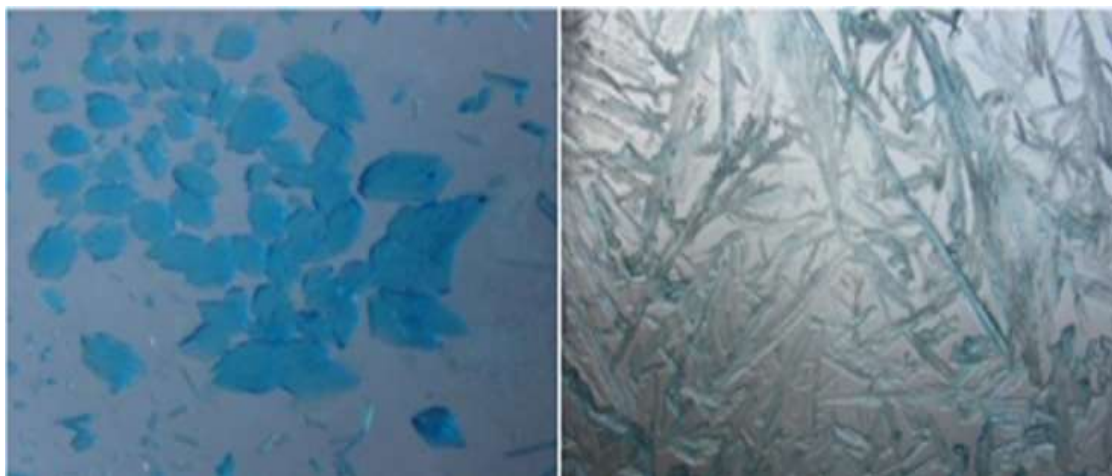


Figure 2: Left: these are prismatic crystals of a deep blue colour (because they are more hydrated [8]), formed after drying a solution of CuSO_4 prepared using positively charged water. Right: these are pale green or colourless (because less hydrated or completely dehydrated [8]) elongated crystals formed after drying a solution of CuSO_4 prepared using negatively charged water [7].

Naturally, it was also assumed that negatively charged water cannot moisturize tissues and, therefore, cannot stimulate cell division, in particular, the division of cells in cancerous tumors [9, 10].

Developing the same ideas, over time it was shown that the accumulation of positively charged water in tissues contributes to thrombosis of their vessels and, as a consequence, the appearance of cancer associated with thrombosis [11]; at the same time, it was shown that negative electrification of tissues promotes the dissolution of blood clots and, consequently, the treatment of thrombosis-associated cancer.

Over time, given that the targeted removal of hydrogen ions from tumors was successful in treating patients with various forms of cancer [12], it was finally concluded that the negative electrification of tumors causes their transformation into normal tissues; accordingly, it was finally decided that the root cause of cancer was absolutely correctly identified. Here, in order to further confirm this correctness, it is shown that it is the negative electrification of tumors that underlies the therapeutic effect of anticancer thermotherapy [13 – 20].

Discussion

To begin a discussion of the reasons for negative tumors electrification

during anticancer thermotherapy, it is worth first recalling Kyon's rule: when two phases come into contact, the phase with the higher (relative)

permittivity acquires a positive charge, and the phase with the lower permittivity acquires a negative charge [8]. After this, considering that the permittivity of water decreases with increasing temperature (from 88.1 at 0 °C to 55.1 at 100 °C [8, 21]), it becomes clear that hotter water acquires a negative charge when in contact with colder water, which therefore acquires a positive charge. Thus, applying the same rule to the human body and taking into account that the permittivity of water at 36.6 °C is 75, and the permittivity of water at 42 °C is 73 [8, 21], it turns out that selective heating of tumors, as is done [13 – 18], leads to their negative electrification, that is, to their saturation with electrons and hydroxyl ions, which neutralize hydrogen ions ($\text{H}^+ + \text{e}^- \rightarrow \text{H}^\bullet$; $\text{H}^+ + \text{OH}^- \rightarrow \text{H}_2\text{O}$), which are the main sources of positive electrification of water and, therefore, carcinogenic, as already mentioned [9 – 12].

(All this, in particular, means that the anticancer effects of selective heating of tumors, in particular with infrared radiation [22 – 24], can be explained exclusively with the help of physicochemical phenomena, i.e., without immune or molecular genetic reasons, which can therefore be considered complementary and not directing. Given this, the use of

photosensitizers in phototherapy, which undoubtedly cause heating of tumors, seems unnecessary, despite their prevalence [25 – 27]; especially given the ability of photosensitizers to convert oxygen into reactive species (ROS), which are now considered carcinogenic [28 – 30].)

It seems quite obvious that all the above considerations apply equally to the explanation of the general healing effect of cold water, observed both when bathing in it and when taking a cold shower [31]. So, applying the same Kyon's rule [8], it turns out that cold water, that is, water at a temperature of $10 \div 20^\circ\text{C}$, when in contact with the human body, takes away positive charges from it (of course, assuming that water is the main component of the human body [1 – 3], and taking into account that the permittivity of water at $10 - 20^\circ\text{C}$ is 84.3 and 80.4, respectively, and is 75 at 36.6°C [8, 21]). Thus, taking into account the above considerations, it seems that the noted therapeutic effect of cold water [22] can be fully explained by its thrombolytic action. (Given that the permittivity of ice at 0°C is approximately 100 [8, 21], one might hope that the suggestion to add ice to a bathtub filled with cold water now seems quite appropriate.)

Since the sequence of preparing starch paste gives a fairly adequate idea of the phenomena that occur when cold and hot water come into contact, it is worth recalling it here. Thus, according to the recommended sequence of actions, you should first prepare a suspension of starch powder in cold water. After this, to obtain a starch paste, the resulting suspension should be poured in a thin stream into freshly prepared boiled water, stirring vigorously, of course. Thus, by applying Kyon's rule [8], it can be concluded that the suspension of starch powder in cold water is converted into the desired adhesive, which is in fact a hydrogel, by absorbing hydrogen ions initially contained in hot water (the reason for the

appearance of hydrogen ions in boiling water was described earlier [32]). Thus, it appears that the very common process of making starch paste provides compelling evidence that colder water extracts protons from warmer water, rendering the latter incapable of forming various hydrogels. Thus, considering thrombi as a kind of hydrogels, as proposed [33, 34], it becomes clear that selective heating of tumors deprives them of the ability to both accumulate water and form clots.

Apparently, the conditions that promote and hinder the swelling of starch (see Figure 1 and comments to it) can also be considered as clear evidence that it is positively charged water that promotes the formation of blood clots, while negatively charged water hinders it (naturally, given that blood clots are the same hydrogels as starch glue [33, 34]). At the same time, to fully understand the process of water electrification using hydrogen and oxygen gases, shown in Figure 1, it is useful to analyze the operating principle of air-hydrogen electric cells (Figure 3). Thus, it can be seen that passing hydrogen gas through water leads to its negative electrification (Figure 3, left), whereas passing air through water leads to its positive electrification (Figure 3, right). Continuing to use the same example (Figure 3), it is worth noting its usefulness for understanding that the intestines, where the proportion of hydrogen gas in the composition of intestinal gases reaches 50% by volume [35], is a source of negative electrification of the human body, in contrast to air, both inhaled and in contact with the skin, which is a source of positive electrification of the human body. Thus, given all of the above, it appears that contact of human skin with cold water can either neutralize its positive charge or impart a negative charge to it; in any case, it is highly likely that this recharging of the skin is the basis for cold water treatment of skin cancer [36, 37].

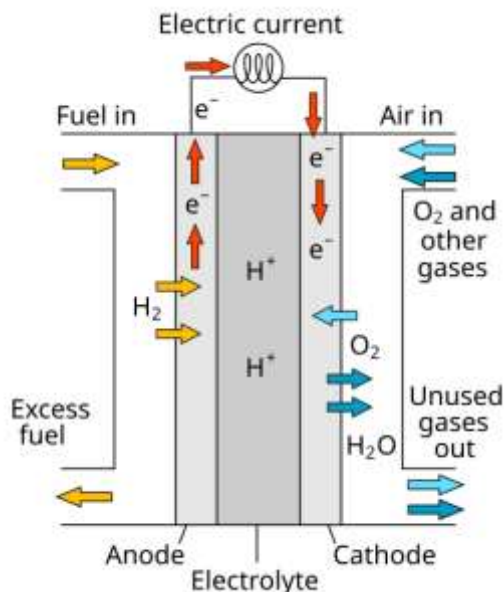


Figure 3: This is a diagram of a hydrogen-air electrochemical cell [8]. The red arrows indicate the movement of electrons from the compartment with an aqueous solution saturated with hydrogen gas to the compartment with an aqueous solution saturated with air.

Thus, it is highly likely that the same thrombolytic effect of cold water plays a leading role in the treatment of both thrombosis-related cancer [10] and skin cancer.

To complete the picture, it is worth considering that excessive solar radiation can also cause positive electrification of the skin (this can happen because any light sends positive charges in the direction of its propagation and negative charges in the opposite direction [38]). This, in particular, explains why skin cancer is often associated with excessive sun exposure [39 – 41].

In light of all the above, it seems that the belief that general cooling of the human body is a promising means of preventing various types of cancer, including skin cancer [42, 43], is quite justified; moreover, it is very likely

that all the above may also justify anti-cancer cryotherapy [44 – 46].

Conclusion

Thus, it seems that all of the above provides sufficient grounds for including cancer thermotherapy in the case series demonstrating negative electrification of tumors as a universal anti-cancer agent [9 – 12, 32, 47]. At the same time, the obvious fact that this universality follows from a single hypothesis makes it worthy of attention and suggests that it can be successfully developed.

So, based on this universality, the anticancer activity of urea and DMSO [12, 48 – 51] can be explained by their pronounced ability to absorb hydrogen ions from the aqueous environment of tumors. To make this

statement more convincing, it is worth considering that urea has three sites capable of binding hydrogen ions, namely two amino groups and one carbonyl group (Figure 4), while DMSO has one, but very strong, site that binds hydrogen ions, namely the O=S-group [8].

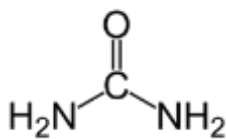


Figure 4. Structural formula of the urea molecule [8].

At the same time, based on this same universality, the main reason for the anti-cancer activity of hydrogen gas [52 – 56] now appears no less obvious, especially in light of the diagram above (Figure 3); since the nature of this activity remains a subject of debate, the idea of precisely this universality seems entirely timely. Apparently, this same diagram (Figure 3) will prove equally useful in explaining the anti-cancer activity of intestinal microflora [57 – 61], especially considering that it is the most active producer of hydrogen in the human body [35].

Feasibly, it is worth also adding that all of the above provides sufficient grounds to believe that rinsing freshly prepared food with cold water (for example, spaghetti or potatoes) deprives it of positive charges and enriches it with negative ones, thereby depriving freshly prepared food of carcinogenic properties [32] and imparting to it anti-cancer qualities.

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