

May Heat Releasing Metabolic Hormones (Particularly Progesterone) Play Role on the Thermo-therapy of Cancer in the Future?

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Editorial

Although body temperature shows slight differences individually, it is approximately 37°C (98.6°F) [1-3] and control of body temperature is executed by hypothalamus. Body temperature may show alterations depending on environmental conditions [1]. For instance, while body temperature is low at night and in the morning, it increases in the afternoon and after exercise. That's why warm blooded beings have perpetual tendency to arrange their body temperature and keep a tight grip on it [1,2]. Even though body temperature is under a tight control [2], it may increase as much as 41°C (105.8°F) when the organism is infected by microbes (bacteria and viruses) and it decreases when the infection gets under control [4].

Nevertheless, body temperature may increase depending on some metabolic hormones apart from infections [1]. Irisin (causes heat releasing by increasing the number of uncoupling proteins) [5], excessive release of thyroid hormones (hyperthyroidism) and progesterone are important metabolic hormones that cause increase in body temperature [6,7]. Progesterone (used as birth control pills) particularly increase basal body temperature 0.4-5°C. Accordingly the rise of body temperature to a certain degree brings to mind the question if it is an advantage or a disadvantage for the organism. It is known that internal temperature of cancer patients are approximately 0.5 degrees more than healthy people and cancer cells are heat-labile cells (Lance Armstrong effect) [5,8]. Heat therapy (thermotherapy) or hypertherapy that remains on the agenda of cancer treatment recently increases the effectiveness of chemotherapy as it is applied with chemical treatment in 4th phase metastatic patients with a diffused tumor and provides significant increase on immune system functions. Researches show that high temperature damages normal tissue slightly and damages or kills cancer cells [5,8,9].

Depending on the aforementioned information it is foreseen that metabolic hormones related increasing body temperature-especially progesterone that increases body temperature 0.4-05°C-can mediate easy elimination of cancer

cells by enhancing the effect of thermo-therapy. Someday cancer may be diagnosed by body temperature change by executing a progesterone loading test. Moreover we think that we can find the true way as we take into account the heat enhancing property of progesterone in the debate about progesterone to make or not to make cancer (recombinant progesterones instead of artificial progesterone must be the first choice). Because a Greek doctor Parmenides mentioned 500 years B.C (Before Christmas). That "I can treat all diseases if you give me the power to create fever". Another important consequence of these data is prevention from damaging patients by discussing how we can use antipyretics in cancer patients. If we gather these data, we can conclude that body temperature has an important role on cancer treatment so we can foresee that by strictly following heat-releasing hormones in patients treated for cancer, success of the treatment can be increased.

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