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INDIRECT CALORIMETRY OF HUMAN BODY SURFACE AND NEW FORCE IN HUMAN SPACE-TIME

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Indirect calorimetry ¹⁾ of human energy production can be calculated by respiratory exchange ratio of O₂ / CO₂. Usually basal metabolic rate (BMR) ²⁾ is measured in order to comparison of individual energy production. But, there exists a new method for indirect calorimetry of human body surface by measurement of blood pressure (BP) and body surface pressure (BSP). And it is necessary for human body energy conversion to set up new force.

BP measurement procedure can be observed by ultrasonic camera. And BSP can be easily calculated by experimental formula following that, $BSP=fq' \times 3(n-a)h'$; fq' = breath/min, n = pulse/breath, $a = 0, 1, 2, \dots$, $h' = 133.322\text{N/m}^2$. Breath and cardiac pulsation can be recorded respectively by transducer as cycloid and vital information waves (VIW) ³⁾, directly on human body surface. Analyzing VIW, cycloid and successive BP measurement, it is turned out that BSP and BP is constructed from several sequential pulsations itself, instead of only one cardiac cycle.

At the same time, parameter time (t) is proved to differ from human time (f) by comparing BSP (t) with BSP (t'). And human time unit ($0.9478672 \times 10^{-10}$ sec) is calculated as the ratio of human eyes axis length to light velocity (c). Although, Cartesian coordinates together with human time axis constructs human 4-dimensional space-time, but in that space-time the energy and time axis is conjugated. And this energy conjugated time axis is considered to be time free coefficient, equal to human body new force = $6.9905103 \times 10^{-24}$ Nm / Vitalon ($19.071855 \times 10^{24} \text{m}^{-3}$). So that, Rolentz's contraction is unsuitable for this space-time coordinates, considered to have apparent velocity of $c/3$. But, $BSP(t) \neq BSP(t')$ is evidently connected with Rolentz's coefficient ($1 : \sqrt{1-v^2/c^2} = 1.06$) and also, Vitalon particle velocity is considered to be $ct' \text{sec}^{-1}$.

Relationship between BP measurement time and discrete pulsations shows the existence of negative cardiac potential. The evaluation method of human energy as calorie unit is considered to set up the function of new force and cardiac potential. Therefore, $dV (\text{m}^3) \times dP (\text{N/m}^2) = dVdP (\text{Nm})$ is convertible to calorie unit in human body indirect calorimetry. Moreover, BP measurement time is tuned out to be 10 sec for every BP, and negative cardiac potential is kept by dispersion and collision of Vitalon particles in negative potential field, produced by $|BSP (\text{or BP}) - 760 \text{mm Hg}| < 0$. On the other hand, the new force is converted to BSP unit as following that, $6.9905103 \times 10^{-24} (\text{Nm}) \times 19.071855 \times 10^{24} (\text{m}^{-3}) = 133.322 \text{N m}^2 = h'$. After all, new indirect calorimetry formula is going after that: $1.44 \times BSP (\text{or BP}) / 4.18605 / \text{kcal}$, so that BP in calorie units (e.g. 120 mm Hg) is 41.28 (kcal) SMR, named as human body-surface metabolic rate /hour, and equivalent to BMR.

BSP and BP are very closely related to breath and cardiac potential, and the reality of BSP and BP is considered to be the same as SMR itself, measured by new human indirect calorimetry.

References:

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- [3] A.Shiraishi, Vital Information Waves, Abstract no. B0945, BIOPHYSICS, The Biophysical Society of Japan, 1991, p. S229