The Nobel Prize in Physiology or Medicine in 2019 is a momentous event!

Open Nobel laureates have shown that adaptation to the changing availability of oxygen is one of the most important aspects of adaptation processes in life.

William G. Kaelin Jr., Sir Peter J. Ratcliffe and Gregg L. Semenza discovered how cells can sense and adapt to changing oxygen availability, they discovered the molecular mechanism that regulates gene activity in response to different levels of oxygen.

Gregg Semenza discovered the protein complex induced by hypoxia factor (HIF) in 1995. In 2001, Gregg Semenza explained how normal oxygen levels (20.9%) control the rapid degradation of HIF-1α.

Then Sir Peter Ratcliffe and his research team made a key discovery: they demonstrated that it was the VHL gene that could physically interact with HIF-1α. This finally linked the VHL gene to HIF-1α. Nobel laureates have elucidated the mechanism of sensitivity to oxygen and have shown how it works through gene mechanisms.

Von Hippel-Lindau disease (VHL), also known as von Hippel-Lindau syndrome, is a rare hereditary disease characterized by the formation of benign and malignant tumours in several organs.

Von Hippel-Lindau syndrome, with a mutation of the VHL gene, does not allow the synthesis of HIF-1α, causes degradation of HIF-1α, which leads to cancer.

What is the practical main value of these discoveries? There is an Interval Hypoxic Training-Therapy (IHT) method available, IHT is the most natural way to produce HIF-1a to synchronize the body's powerful adaptive forces and their protective actions.

This shows and proves that periodic repeated breathing with a reduced oxygen level will synthesize the HIF-1α protein and include (within 3 minutes!) The main necessary adaptive mechanisms of the body, that is, make the body more plastic and adapted to adverse conditions.

We can do cancer prevention by stimulating HIF-1a.
IHT is the most natural and affordable way to obtain HIF-1a.

Historical reference.

In 1906, E. von Hippel described a patient with retinal angioma, and in 1926 A. Lindau described a patient with retinal angioma and hemangioblastoma of the central nervous system. A year later, A. Lindau discovered the association of these manifestations with renal and pancreatic cysts. VHL syndrome is detected in approximately 1 out of 36,000 people and is caused by a mutation in the 3p25/26 region, where the gene for suppressing VHL tumour growth is localized.

The VHL tumour suppressor gene was discovered in 1993. Mutational inactivation of the VHL gene in patients and family members is responsible for their genetic susceptibility.

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