

Heat, diet and lifestyles control longevity in animals and man

The inactivation of the heat shock gene called Sirtuin 1 (Sirt 1) is associated with many chronic diseases such as diabetes, non alcoholic fatty liver disease (NAFLD), cardiovascular disease and neurodegenerative diseases. Factors such as body temperature regulation, unhealthy diets and stress can interfere with the heat shock gene and toxic proteins such as heat shock proteins increase and clump with other proteins such as the Alzheimer's disease amyloid beta. The toxic protein clumps change the body's immune system and the body attacks itself called autoimmune disease. The defective immune system that attacks the body and the faulty heat shock gene is now relevant to the global chronic disease epidemic and that is the reason for the unexpected death of many individuals (Fig. 1).

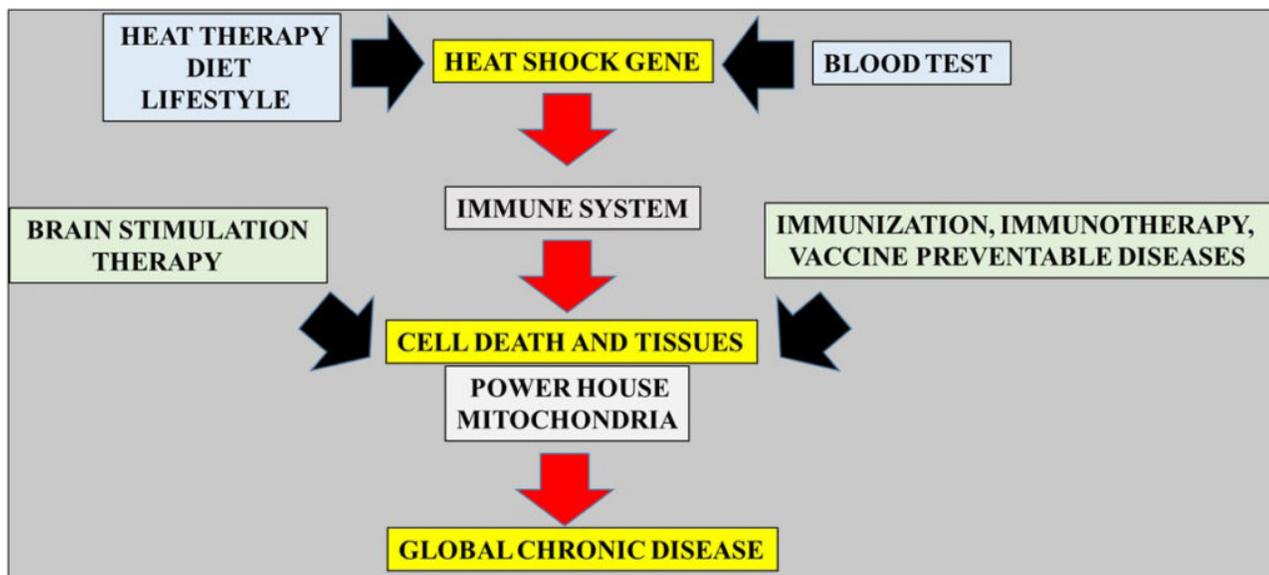


Fig. 1. In various communities heat shock gene inactivation may result in cell death in various tissues with relevance to the global chronic disease.

Nutritional therapy is critical to maintain the heat shock gene with important activators that stop the body from various heart, liver and brain diseases in the developed world. In the developing world heat shock gene inhibitors can cause the body to attack tissues that can cause the cells to die (Fig. 1). The brain and the liver talk to each other and this brain-liver communication is broken with the toxic protein clump formation and defective body clocks in these individuals. The importance of the heat shock gene is now relevant not only to man but to other animals and species. The careful heat shock gene control is needed in animals such as diet, lifestyle and stress that when not controlled the animals will die. The toxic protein clumps that will build up in the body will kill the body powerhouses called mitochondria that are important to body temperature control. In animals the

powerhouses may die very quickly in the brain and animals may be more sensitive to cell death in environments where the day temperature may rise very quickly and drop.

The heat shock gene is important to researchers who study the immune system that protects us from infection. The infection in various individuals that takes days or weeks to recover will need careful body temperature control to make the heat shock gene active and control the body's cells to attack the infection. In the process of infection if the body temperature is not controlled the powerhouse called the mitochondria will die. To stop infectious diseases in the developed and developing world immunization, immunotherapy and vaccine preventable diseases have cost billions of dollars. The heat shock gene is needed to allow immunization and vaccine preventable programs to be successful in various human diseases.

In various communities heat therapy such as brain stimulation therapy, hot tub therapy and sauna need to be carefully supervised. Brain stimulation therapy when not controlled such as electroconvulsive therapy can destroy the heat shock gene that may lead to brain cell death (Fig. 1). In anti-aging therapies the body temperature regulation, healthy diets and stress are closely connected to the heat shock gene and heat therapy when used in man (developing/developed world) and animals needs to be carefully evaluated with relevance to the life of the powerhouses. Appetite control is essential with specific diets for animals and man to maintain the heat shock gene and its control of the brain and liver communication. A protein released from the heat shock gene is now very important to keep animals and man alive. This protein called Sirtuin 1 can be tested in the blood plasma of man and the heat therapy should be carefully controlled not to break down this very sensitive protein called Sirtuin 1. The lung, heart, liver and brain need the protein to survive and to control the body's immune system.

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