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To News media

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From Japan:
Clinical efficacy of new physical medicine to diabetes is proved
The proposal of new treatment strategy

Tatsuya Kondo, Eiichi Araki and Hirofumi Kai at al, working at the Department of Metabolic Medicine or Molecular Medicine, Faculty of Life Sciences, Kumamoto University reported the research findings that mild electrical stimulation (MES) with heat shock (HS) treatment successfully improved visceral adiposity, glucose homeostasis, insulin resistance, fatty liver and other metabolic abnormalities in metabolic syndrome (MS) or type 2 diabetes (T2DM).

This combination therapy was performed using medical device that produces appropriate MES with HS simultaneously. This biophysical and biochemical effects were identified by molecular biological method, and this unveiled that activation of heat shock response (HSR) by MES+HS increased HSP72 and activate AMPK, which is quite similar that can be observed by exercise. This method also attenuates chronic inflammatory milieu *in vivo*. Moreover, more than 50% of participants achieved ideal glycemic control of HbA1c less than 7.0%.

This research article was published in new online journal "EBioMedicine", which is an Elsevier journal published with editorial support from ***Cell Press*** and ***The Lancet*** on Nov. 7th. EBioMedicine focuses on the premier venue bringing together basic research and clinical science. URL: http://www.ebiomedicine.com/

In particular, this article was published with a Commentary from Dr. Phllip L Hooper, who is the authority in the research field of HSR and molecular chaperone. The linked Commentary by Phil Hooper is also available on Science Direct at
http://www.sciencedirect.com/science/article/pii/S2352396414000309

<Article title>
"Mild electrical stimulation with heat shock reduces visceral adiposity and improves metabolic abnormalities in subjects with metabolic syndrome or type 2 diabetes: Randomized crossover trials"
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The paper is now available on both Science Direct
http://www.sciencedirect.com/science/article/pii/S2352396414000255 and
EBioMedicine website at http://www.ebiomedicine.com/inpress.