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A novel anti-diabetes drug development program

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Over the last 50 years, the most extensively used blood glucose controlling agents have been insulin and sulfonylurea derivatives. However, more recently developed anti-diabetes drugs exhibit moderate to serious side effects. Rosiglitazone and pioglitazone are the only anti-diabetes drugs that improve insulin resistance, the primary cause of type 2 diabetes. Nevertheless, they have severe side effects: liver damage. We have demonstrated that Cyclo (his-pro) plus zinc (Cyclo-Z) is very effective in lowering blood glucose levels and improving oral glucose tolerance in streptozocin-induced diabetic rats, genetic type 2 diabetic Goto-Kakizaki (G-K) rats, and genetically obese diabetic ob/ob mice. Furthermore, Cyclo-Z treatment reduced body weight in obese Sprague-Dawley rats and aged G-K rats by reducing food and water intake. In these studies and along with subsequent nine-month toxicological studies in rats, we have not observed any adverse effects of Cyclo-Z. In an FDA-IND approved Phase 1 clinical trial, acute (24 hr study) high doses of Cyclo-Z also did not demonstrate any adverse effects in human volunteers. Findings from a three month Phase 2a clinical trial showed significant reductions in body weight and HbA1c in mildly diabetic, obese patients without a single report of any side effects. A second Phase 2a clinical trial is currently underway with severely diabetic, obese subjects. Given that Cyclo-Z does not show any apparent untoward effects and yet it improves insulin resistance in both animals and humans, Cyclo-Z may potentially be the most significant FDA approved new drug for the treatment of both diabetes and obesity.

Biography

Moon K Song has completed his PhD from the University of Hawaii and Postdoctoral studies at the Indiana University School of Medicine. He currently is the Principal Investigator studying Metabolic Disease Research at the VA Greater Los Angeles Healthcare System and is an Emeritus Research Professor at the UCLA School of Medicine. He has published >75 papers in reputable journals, and has presented his findings at numerous professional and scientific conferences (>70 times). He has reviewed manuscripts for >20 biomedical scientific journals and grant proposals from more than five different funding agencies and currently maintains five professional society memberships.

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