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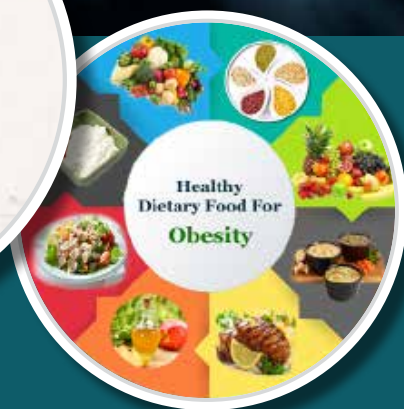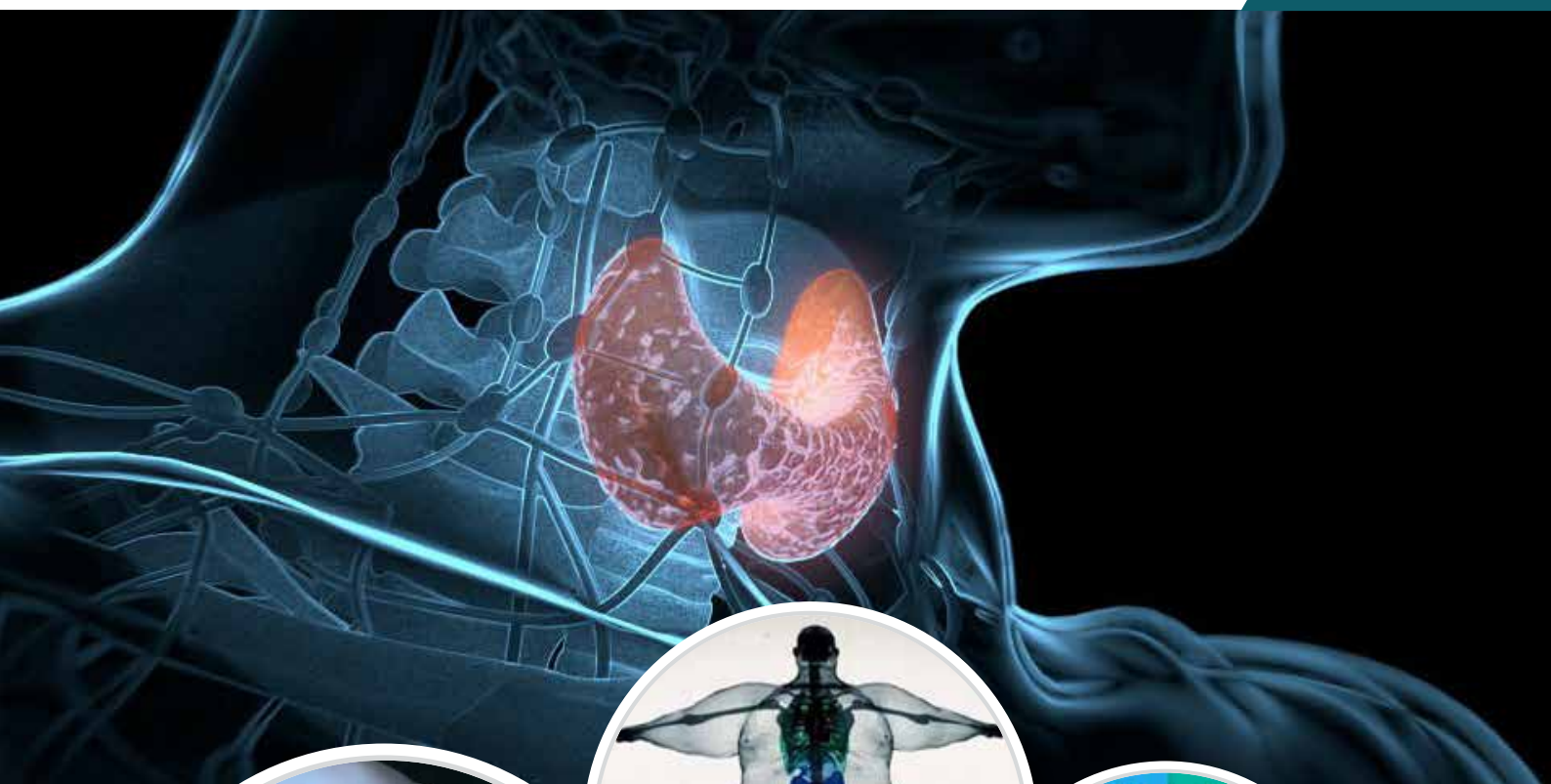
3rd International Conference on

Endocrinology and Metabolic Syndrome

&

12th International Conference on

Abdominal Imaging and Endoscopy

June 28-29, 2018 Amsterdam, Netherlands

3rd International Conference on

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Keynote Forum

DAY 1

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ENDOCRINOLOGY AND METABOLIC SYNDROME
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12th International Conference on

ABDOMINAL IMAGING AND ENDOSCOPY

June 28-29, 2018 Amsterdam, Netherlands

Gerald C Hsu
eclaireMD Foundation, USA

Using math-physics medicine to analyze metabolism and improve health conditions

The author has spent seven years and 18,000 hours to study, analyze and research his chronic disease conditions. Here is the comparison between 2010 and 2017: Weight: 205/172 lbs; Waistline: 44-34 inches; PPG: 350/116 mg/dL; FPG: 185/119 mg/dL; Daily glucose: 280/117 mg/dL; A1C: 10.0/6.1%; ACR: 116/12 mg/mmol; Triglycerides: 1161/69 mg/dL. He used mathematics, physics, engineering modeling, and computer science (big data analytics and AI) to derive the mathematical metabolism model and three prediction tools for weight, FPG, and PPG with >30 input elements. This study includes 11 categories: weight, glucose, blood pressure, lipids, food, water, exercise, sleep, stress, life pattern regularity, time, with ~500 input and output elements. He collected more than 1 million "clean" data over seven years. He defined two new terms known as the metabolism index (MI) and general health status unit (GHSU). The "health state"

is expressed as the "break-even" line which is 73.5%; above this percentage is regarded "unhealthy" and below the break-even line is "healthy". The results showed that he was very unhealthy (80%-110%) before 2013. The curve went through a sharp decline in 2014 due to his research. After 2015, he was "healthy" (60%-70%). As of 12/21/2017, his MI is 55.3% and GHSU is 56.1%. His entire previous lab test results confirmed with the diagram showing his chronic disease conditions is well under control.
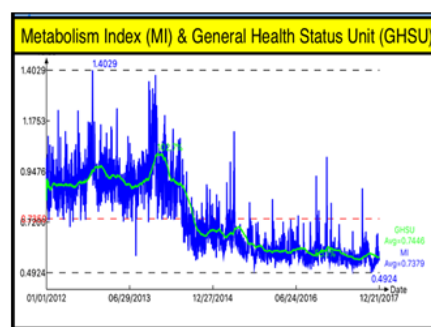
Biography

Gerald C Hsu has received his honorable PhD in Mathematics and majored in Engineering at MIT. He attended different Universities over 17 years and studied seven academic disciplines. He has spent 20,000 hours in T2D research. First, he studied six metabolic diseases and food nutrition during 2010-2013, and then conducted research during 2014-2018. His approach is "Math-Physics and Quantitative Medicine" based on mathematics, physics, engineering modeling, signal processing, computer science, big data analytics, statistics, machine learning, and AI. His main focus is on preventive medicine using prediction tools. He believes that the better prediction, the more control you have.

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June 28-29, 2018 Amsterdam, Netherlands

Hidekatsu Yanai

National Center for Global Health and Medicine, Japan

Effects of Non-Exercise Activity Thermogenesis (NEAT) on metabolic parameters in patients with type 2 diabetes

Non-Exercise Activity Thermogenesis (NEAT) is the energy expenditure due to Physical Activities (PA) besides sports-like exercise and resistance training. It includes various activities in daily life such as going to work, attending school, and singing, dancing, washing clothes and cleaning floors. We developed the original questionnaire to evaluate NEAT in Japanese people, based on 2011 Compendium of Physical Activities produced by American College of Sports Medicine, by considering Japanese life-style and culture. The questionnaire consisted of 11 question items about locomotive activities and 25 question items about non-locomotive activities. We evaluated each questionnaire item with a score of 1 to 3 points in order of levels of daily PA and then added up the scores to determine the NEAT score. In our previous study using 45 subjects (22 women and 23 men) with type 2 diabetes who did not take any hypoglycemic, anti-hypertensive, or cholesterol-lowering agents, the NEAT score was negatively correlated with serum insulin levels ($r= -0.42$, $P<0.05$). The NEAT score was also negatively correlated with waist circumference ($r= -0.509$, $P<0.05$) and positively correlated with HDL-C levels ($r = 0.494$, $P<0.05$) in women, and was negatively associated with serum insulin levels ($r= -0.732$, $P<0.005$), systolic ($r= -0.482$, $P<0.05$) and diastolic blood pressure ($r= -0.538$, $P<0.05$) in patients with abdominal obesity. Our study demonstrated that NEAT is associated with amelioration in insulin sensitivity, waist circumference, HDL-C, blood pressure, in patients with type 2 diabetes. We examined the validity of our NEAT questionnaire by comparing with objectively measured daily PA by using the triaxial accelerometer. The NEAT score was significantly and positively correlated with PA Level (PAL) measured by the triaxial accelerometer ($r=0.604$, $P<0.001$). PAL was also significantly and positively correlated with both the locomotive NEAT score and the non-locomotive NEAT score ($r=0.444$, $P=0.001$ and $r=0.526$, $P<0.001$, respectively). The NEAT score measured by the self-reported questionnaire was highly correlated with PAL measured by the triaxial accelerometer. In type 2 diabetic women, the NEAT score was significantly and negatively correlated with Urinary Albumin Creatinine Ratio (UACR) ($r=-0.513$, $P<0.05$) and positively correlated with coefficient of variation of R-R intervals (CVRR) ($r= 0.471$, $P<0.05$). 5 Our study suggested that NEAT is beneficially associated with markers for diabetic nephropathy and neuropathy in type 2 diabetic women. In patients with type 2 diabetes, multiple regression analysis, adjusted for age, gender, height and weight, revealed that hand grip strength was positively associated with total NEAT scores and locomotive NEAT scores. I summarized beneficial effects of NEAT on metabolic parameters. An increase of NEAT enhances muscle strength, reduces visceral adiposity and blood pressure, and improves insulin resistance and serum lipids, and is associated with lower risk of diabetic complications.

Biography

Hidekatsu Yanai is a Fellow of American College of Physicians (FACP), the Director of the Department of Internal Medicine and Clinical Research and Trial Center, National Center for Global Health and Medicine Kohnodai Hospital, Japan. He is also the Professor of Wayo Women's University, Japan. He obtained his MD and PhD degrees in National Defense Medical College and Hokkaido University School of Medicine, respectively. He studied as Invited PhD Research Fellow in the National Institutes of Health (NIH), USA. He is the Editor-in-Chief of *Journal of Endocrinology and Metabolism* and also an Editorial Board Member of 10 medical journals. He has 195 published English papers in refereed medical journals.

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June 28-29, 2018 Amsterdam, Netherlands

Antonio Iannetti

University "La Sapienza" Roma, Italy

Endoscopic therapies in gastroesophageal reflux disease: A clinical review and scientific literature

Gastro-esophageal reflux disease is a very common disease among the "healthy" population. Its natural history involves continuous recursions alternating with quiescent stages. For this reason, the importance of the social problem and high health costs is clear. Some patients do not respond to medical therapy. Those who benefit from medical treatment often become addicted to medication. As many are young and as medical therapy can have adverse side effects such as anemia, osteoporosis, and infections, the need for alternative therapies arises. Surgery is seen with fear in view of the possible early or late complications and the technical difficulties of repeating the intervention in case of failure. Laparoscopic surgery has favored a greater propensity for the surgical solution, but it is still an intervention involving three to four days of hospitalization. Endoscopic surgery, easy, repeatable surgery, without intraoperative and postoperative complications, which can be performed at Day Hospital, would be ideal for this type of chronic illness. In reviewing the various techniques that have been proposed over the last 20 years, I refer to the considerations derived from international literature. I carry out scientific studies that compared endoscopic operations (especially endoscopic fundoplication) with surgical fundoplication, with satisfactory results but not always in favor of the first one. My personal invitation is to continue to look for solutions with endoscopic surgery, which should be or become the most appropriate technique for this type of pathology, considering the easy repeatability, if anything but a bridge to surgery.

Biography

Antonio Iannetti has completed his graduation in Medicine and Surgery and Specializations in Gastroenterology and Internal Medicine from the University of Rome. He is a Medical Clinic Assistant at the University of Rome since 1975. His other research and academic positions include: 1980–1983, University of Los Angeles (USA); 1982–1985, Hospital Assistant at Policlinico Umberto, University Hospital Roma; Lecturer Urgency Medicine at the Hospital Medical School; since 1985; University Professor of Gastroenterology Chair University, University Polyclinic Umberto, Rome; 1991–1993, Director of Emergency Endoscopy Service; 1994–2010, Director Digestive Endoscopy Service at the University Hospital Umberto of Rome; 1987–2013, Professor of Digestive Endoscopy at the School of Specialization and Digestive Diseases at the Degree Course of the Faculty of Medicine and Surgery of the University of Rome "Sapienza". Also, he teaches E.C.M. courses nationally and internationally. Since 2011, he is a Gastroenterology Expert at the Ministry of Health.

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Slobodan Marinković
University of Belgrade, Serbia

The anatomic and pathologic basis for the abdominal endoscopy

Statement of the Problem: The normal anatomy and pathologic processes are crucial for the endoscopic examination and imaging of the abdominal organs.

Methodology & Theoretical Orientation: The abdominal organs were dissected in four cadavers, and their diseases and disorders were examined in 165 autopsies.

Findings: According to the anatomic examination, hiatus of the esophagus usually was at the T10 vertebra level, the cardiac opening at T11, the pyloric opening at L1, the superior duodenal flexure at eight to nine costal cartilages, the duodenojejunal flexure at L2, and the appendix opening at the lower part of the spinoumbilical line. The abdominal esophagus measured 1–2.5 cm in length, the superior part of duodenum 5 cm on average, the descending part 8–10 cm, and the inferior part 10 cm. The major duodenal papilla was 8–10 cm distant to the pyloric opening. The inspection of these structures in autopsy specimens presented in one or more cases of the following pathologic processes or disorders: hiatus hernia, reflux esophagitis, Barett's metaplasia, squamocellular carcinoma, and varices; the acute erosive gastritis, chronic atrophic gastritis, peptic ulcer, and various gastric adenocarcinomas; an obstruction of the hepatopancreatic ampulla, duodenal ulcer, gluten-sensitive enteropathy, ischemic intestinal disorder, carcinoid and metastatic tumors, and Crohn disease; diverticulosis, ulcerative colitis, acute appendicitis, adenomatous and non-adenomatous polyps, and various types of colic adenocarcinomas.
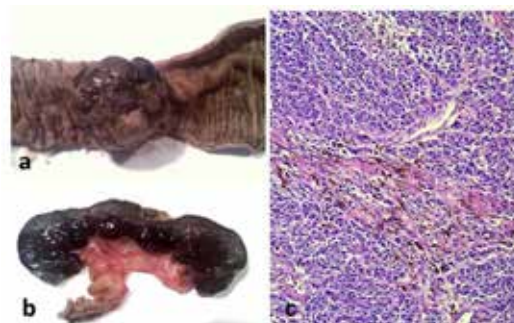
Conclusions & Significance: These findings are the basis for the endoscopic and imaging diagnosis, and certain therapeutic interventions.

Biography

Slobodan Marinković has completed his PhD from Belgrade University and Post-doctoral studies from Laboratory of Neurophysiology, Panum Institute in Copenhagen (Denmark). He spent three months at George Town University, Washington D.C., USA. He has published two international books, four chapters in two other books, eight national books, more than 60 papers in reputed journals and has been serving as an Editorial Board Member of repute. He has about 1200 citations in the international publications. He has given 16 lectures at various international congresses and universities as an Invited Speaker and has been a Chairman person on three occasions. He is a Full Professor of Anatomy at University of Belgrade, and a Visiting Professor at Shinshu University, Matsumoto, Japan.

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DAY 2

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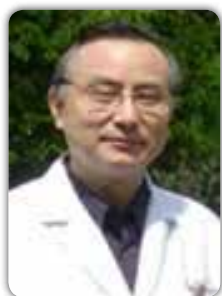# ABDOMINAL IMAGING AND ENDOSCOPY
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Renming Hu
Fudan University, China

Anti-inflammatory treatment of diabetes and metabolic syndrome or metabolic inflammatory syndrome

Changes in modern habits and environment produce metabolic products, including FFA and LPS, which polarize macrophages and induce chronic low grade inflammation, which damage tissues and organs and lead to metabolic diseases. Polarized macrophages not only participate in the pathophysiological process of AS, but macrophages can also invade the islets, adipocytes and liver tissues and damage these tissues and participate in the pathophysiological process of type 2 diabetes (T2DM), obesity and nonalcoholic fatty liver (NAFLD). AS, T2DM, NAFLD and obesity are closely related to chronic low grade inflammation and often accumulate, exist, or concurrency. Therefore, researchers compared AS, T2DM, NAFLD and obesity to 4 melons on a vine (chronic low inflammation), and proposed the concept and construction of metabolic inflammatory syndrome (Metabolic Inflammatory Syndrome, MIS). MIS is diagnosed as having 2 or more than 4 metabolic diseases above 4 in addition to the endocrine diseases of the known cause such as Cushing syndrome, Acromegaly and primary hypothyroidism.The concept of MIS is in line with the theory of system biology and integrated medicine, which is beneficial to the interdisciplinary, basic and clinical combination, and to create a new method for the effective prevention and treatment of metabolic diseases with the same treatment of different diseases and the same treatment with different diseases. MIS is the development of metabolic syndrome (MS). As early as the 60-70 years of twentieth Century, researchers have found that obesity, hypertension, dyslipidemia, and diabetes are more likely to be associated with cardiovascular disease, and the combination of these metabolic risk factors is called metabolic syndrome. In 1998, WHO expert group formally named this and put forward the diagnostic standard. Subsequently, various organizations discussed and revised their components. Microalbuminuria, impaired fasting blood glucose, or abnormality of glucose tolerance are still in the first 4 items, and the disputed risk factors include chronic low grade of inflammation (such as CRP, PAI-1), hyperuricemia, nonalcoholic fatty liver, and so on. According to the diagnostic criteria of MS, Cushing syndrome, Acromegaly and primary hypothyroidism and other diseases is also consistent with the diagnosis of MS, suggesting that MS concepts are to be discussed. The concept of MIS can better induce the metabolic diseases caused by chronic low grade inflammation. AS has become a major risk factor for human health. Therefore, screening and early diagnosis of AS is very important. The concept and diagnosis of MIS will encourage and promote T2DM, NAFLD and obese people to screen AS. Therefore, the concept of MIS is helpful for early diagnosis and prevention of AS.

Biography

Renming Hu got the M.D and PhD from Shanghai second Medical University in 1973 and 1988. He worked the department of Endocrinology affiliated to University of Chicago during 1988-1990. He finished post doctor training in University of California during 1990-1993 and worked Department of Endocrinology at UCI as an assistant researcher from 1994 to 1996. He worked in Rui Jin Hospital affiliated to Shanghai Second Medical University during 1996-2002 as vice director of Institute of Endocrinogy of Shanghai and vice director of Department of Endocrinogy. He was promoted as a professor in 1999. He was director of Department of Endocrinology of Huashan Hospital affiliated to Fudan University and The Institute of Endocrinology and Diabetology at Fudan University during 2002-2010. Now he is director of Institute of Endocrinology and Diabetology at Fudan University and director of Department of Endocrinology of Jinshan Hospital affiliated to Fudan Univesity.

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June 28-29, 2018 Amsterdam, Netherlands

Shaodong Guo

Texas A&M University, USA

Insulin signaling, resistance and metabolic syndrome: Insights from mouse models into disease mechanisms

Insulin resistance serves as the major mechanism for the development of obesity, which is pandemic in population worldwide over the past decades, largely owing to over nutrition. Excess energy stores in the adipose tissue and other organs as lipids, promoting lipotoxicity and metabolic inflammation, activating intracellular protein kinases to impair insulin signaling components and resulting in insulin resistance. Insulin resistance is the key etiologic defect that defines "metabolic syndrome", a group of interrelated disorders, including obesity, hyperglycemia, dyslipidemia and hypertension. Following insulin resistance, many of patients with the metabolic syndrome eventually developed pancreatic β-cell failure, which triggers the onset of type 2 diabetes mellitus (T2DM) and its complications. Our cell- and animal-based studies demonstrate that insulin and its signaling cascades normally control cell growth, metabolism and survival through activation of mitogen-activated protein kinases (MAPKs) and phosphatidylinositide-3-kinase (PI3K), of which activation of PI3K-associated with insulin receptor substrate-1 and -2 (IRS1, 2) and subsequent Akt→Foxo1 phosphorylation cascade have a central role in control of nutrient homeostasis and organ survival. Inactivation of Akt and activation of Foxo1, through suppression IRS1 and IRS2 in a variety of organs following over nutrition, lipotoxicity and inflammation may form a fundamental mechanism for insulin resistance in humans. This seminar discusses the basis of insulin signaling, resistance and how excess nutrients and lipid signaling from obesity promotes inflammation and insulin resistance, promoting organ failure with emphasis on the IRS and the forkhead/winged-helix transcription factor Foxo1.

Biography

Shaodong Guo is an Associate Professor in the Department of Nutrition and Food Science at Texas A&M University College. He received his PhD in Physiology from Peking University, China. Then he completed his Post-doctoral research training in Genetics, Biochemistry, and Medicine in the Chinese Academy of Sciences, the University of Illinois at Chicago, and Harvard University, respectively. He was an Instructor in Medicine at Children's Hospital Boston and Harvard Medical School for two years prior to joining the faculty at Texas A&M Health Science Center. Currently, he serves as Senior Editor for the *Journal of Endocrinology* and *Journal of Molecular Endocrinology*, two major official journals of Endocrine Society of Europe, UK, and Australia, and he is the textbook chapter writer for *Metabolic Syndrome* edited by Rexford Ahima and published by Springer in 2016. His lab research focuses on insulin/glucagon and estrogen signal transduction, insulin resistance, gene transcriptional control of nutrient homeostasis, and cardiac dysfunction in diabetes. He has been working on the gene transcriptional regulation of metabolic homeostasis by insulin receptor substrate proteins (IRS) and Forkhead FoxO transcription factors and has been funded by American Diabetes Association (ADA), American Heart Association, and the National Institute of Health of USA. He is a recipient of ADA junior faculty award, career development award, and Richard R Lee Award. His work has been published in a number of journals including the JBC, Endocrinology, Hypertension, Diabetes, Circulation Research, AJP, MCB, and Nature Medicine, receiving more than 5,000 citations from the Google Scholar.

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