

2<sup>ND</sup> INTERNATIONAL SUMMIT ON

# DIABETES, ENDOCRINOLOGY & METABOLIC DISORDERS



## THEME:

HORMONES, HEALTH AND HEALING  
ADVANCING SCIENCE IN ENDOCRINOLOGY,  
METABOLISM AND DIABETES



## DEMD 2.0

July 21-22, 2026 |  
Vienna, Austria

ISBN: 978-1-917892-46-9



JULY 21-22, 2026



VIENNA, AUSTRIA

# International Conference

## Day-1 (July 21, 2026)

**08:30-09:30 Registrations & Opening Remarks**

### Plenary Forum



**09:00-09:30**

**Title: The Impacts of Climate Disruption on Human Health and What We in Healthcare Can Do About It**

**Dr. Susan Deering, University of Toronto, Canada**

**09:30-10:00**

**Title: Patients Oriented Scientific Research**

**Dr. Cong-Yi Wang, Huazhong University of Science & Technology, China**



**10:00-10:30 Networking Break + Group Photo**

### Keynote Presentations (10:30 - 11:30)

**10:30-11:00**



**Title: Protein Methylation, a Wrestler for Chromatin Structure, Modulates the Risk of Metabolic Disorders**

**Dr. Cong-Yi Wang, Huazhong University of Science & Technology, China**

**11:00-11:30**

**Title: Advances in cell-based delivery of oncolytic viruses as therapy for lung cancer**

**Prof. Ralph Meuwissen, Ege University, Turkey**



**Vienna, Austria**

# International Conference

## Day-1 (July 21, 2026)

### Technical Session- I (11:30 - 13:10)

**11:30-11:55**

**Title: Integrated Metabolic and Topical Therapy for Cellulite in Women With Metabolic Syndrome and Insulin Resistance: A Protocol Using Tirzepatide and G21 Topical Formulation**

**Prof. Adamidis Sotirios**, Athens Medical Center, Greece



**11:55-12:20**

**Title: Ozempic's positive and negative impact on the heart**

**Miss. Julianne Lin**, The Master's University, USA



**12:20-12:45**

**Title: Association of intradialytic pulse-rate average real variability with adverse outcomes in maintenance hemodialysis patients with diabetes**

**Ms. Yiping Qiu**, Zhejiang Chinese Medical University Affiliated College of Integrated Traditional Chinese and Western Medicine, China



**12:45-13:10**

**Title: Possible mechanisms of action of glucagon-like peptide-1 receptor agonists on blood pressure beyond body weight**

**Prof. Hiroshi Itoh & Dr. Masami Tanaka**, Midtown Clinic East, Japan



**13:10 - 14:00 Lunch @ Restaurant**

**Technical Session-II (14:00 - 18:05)**

**Vienna, Austria**

# International Conference

## Day-1 (July 21, 2026)

**14:00-14:25**

**Title: Injectable Hydrogel for Controlled Release of Insulin: In-vivo Diabetic Animal Model Study**

**Prof. Pralay Maiti**, Indian Institute of Technology (Banaras Hindu University), India



**14:25-14:50**

**Title: Angiovac Percutaneous Aspiration of Aortic and Mitral Endocarditis**  
**Dr. John C Lin**, Interventional Cardiology and Radiology, USA



**14:50-15:15**

**Title: Multilocus Genetic Risk Profiling of Atherosclerosis and Venous Thromboembolism in Azores and Mainland Portuguese Populations**

**Dr. Claudia Castelo Branco**, Hospital of Divino Esprito Santo of Ponta Delgada, Portugal



**15:15-15:40**

**Title: Oura ring in cardiopulmonary monitoring and disease detection**  
**Mr. Kaiden Lin**, The Masters University, USA



**15:40-16:05**

**Title: Global Standardized Guardrails for Cardiovascular Digital Therapeutics**  
**Miss. Maria Palombini**, IEEE, USA



**Vienna, Austria**

# International Conference

## Day-1 (July 21, 2026)

**16:05-16:25 Refreshment Break**

**16:25-16:50**



**Title: Area deprivation index predicts annual chronic kidney disease screening and chronic kidney disease development among patients with newly diagnosed hypertension and type 2 diabetes in a large midwestern health system: a retrospective cohort study**

**Dr. Mary Ingle, Advocate Health, USA**

**16:50-17:15**



**Title: Environmental radon exposure and COVID-19 mortality during the pre-vaccination period: potential epidemiological links and its implications**

**Prof. Stephanie Melinda Jonathan & Dr. Gilles Maignant, University cote d'azur, France**



**17:15-17:40**



**Title: Improving Door-to-ECG Time in Acute Myocardial Infarction: A Closed-Loop Audit from a Tertiary Care Center in Peshawar**

**Dr. Nazia Waheed, South Infirmary Victoria University Hospital, Ireland**

**17:40-18:05**

**Title: Association between macular ganglion cell layer- inner plexiform layer and diabetic retinopathy**

**Dr. Romano Vrabec, Merkur University Hospital, Croatia**



**DAY 01 CONCLUDES**

**Vienna, Austria**

# International Conference

## Day-2 (July 22, 2026)

### Keynote Presentations (10:00 - 11:00)

**10:00-10:30**



**Title: Main Cardiac Histopathologic Alterations in the Acute Phase of Trypanosoma cruzi Infection in a Murine Model**

**Prof. Paz María Salazar Schettinoz, FACULTAD DE MEDICINA UNAM, Mexico**

**10:30-11:00**

**Title: UTE MRI Can Detect Bone Quality Degradation in Diabetes**

**Prof. Jiang Du, University of California, USA**



### Refreshment Break (11:00-11:20)

### Poster Presentations (11:20-11:50)

#### Poster-1

**Title: Impact of Skin Hydration on Microvascular Function and Wound Healing in Diabetic Foot Patients**

**Prof. Seung Kyu Han, Korea University College of Medicine, South Korea**



#### Poster-2

**Title: A Diagnostic Challenge: Disseminated Histoplasmosis Presenting as Adrenal Insufficiency and Recurrent Hypoglycemia in a Diabetic Patient**

**Dr. Mohammad Anwarul Bari, Sir Salimullah Medical College, Bangladesh**



**Vienna, Austria**

# International Conference

## Day-2 (July 22, 2026)

### Poster-3



**Title: Retained drainage tube fragment after thyroidectomy presenting as a palpable neck mass: a case report**

**Prof. Min Ho Park**, Chonnam National University, South Korea

### Poster-4

**Title: Cannabidiol differentially regulates cell cycle and metabolism of iPSC-derived cardiac fibroblasts from Duchenne muscular dystrophy patients and healthy controls.**

**Dr. Lesia Savchenko**, Institute of Metabolic and Cardiovascular Diseases (I2MC), France



### Poster-5

**Title: Prognostic Significance of Beat-to-Beat T-Wave Amplitude Variability in Cardiovascular Diseases: A Narrative Review**

**Prof. Eiichi Watanabe**, Fujita Health University, Japan



### Poster-6



**Title: Initial Shockable Rhythm as a Key Predictor of Favorable Outcomes in OHCA Patients without ST Elevation Undergoing PCI**

**Prof. Hyun Wook Ryoo**, Kyungpook National University Hospital, South-korea

### Poster-7

**Title: Expanding the Genotypic Spectrum of Hereditary Transthyretin Amyloidosis: A Case Series of Patients with the Novel TTR p.Ala101Gly Variant**

**Nadiia Rineiska**, Laboratory of Chronic Heart Failure, Belrus



# International Conference

## Day-2 (July 22, 2026)

### Poster-8



**Title: STEMI Patients with LVEF  $\leq$ 40%: Adherence to the Four Pillars of Heart Failure Therapy**

**Dr. Muhammad Bhatti**, University Hospital Limerick, Ireland

### Poster-9

**Title: Targeting CD105 Through Inhaled siRNA Delivery: A Novel Therapeutic Strategy for Pulmonary Fibrosis**

**Dr. Erika Esposito**, University of Naples, Italy



### Poster-10



**Title: Primary Hyperparathyroidism and RAAS Activation : Evidence for an Emerging Endocrine Axis**

**Dr. Yahi Abdelkader**, Mother and Child Hospital of Army, Algeria

### Poster-11

**Title: Prevalence and Associated Factors of Obstructive Sleep Apnea Syndrome in Patients with Turner Syndrome: A Prospective Pilot Study**

**Dr. Djebbar Adel**, Mother and Child Hospital of Army, Algeria



## Technical Session- III (11:50 - 13:05)

### 11:50-12:15

**Title: Alleviative effect of probiotics and prebiotics on dry eye in type 2 diabetic mice through the gut-eye axis**

**Dr. Jianfeng Long**, Second Xiangya Hospital of Central South University, China



**Vienna, Austria**

# International Conference

## Day-2 (July 22, 2026)



**12:15-12:40**

**Title: Modelling the Differentiation History of Fibrogenic Cells: A Rule-Based Computational Model of Fibrosis Progression and Reversion**

**Dr. Matthieu Bouguéon, University College London, UK**

**12:40-13:05**

**Title: Prevention of Nanoparticle Exposure from Combustion Engines and Harmful Nanosize Bioaerosols**

**Prof. Jan Czerwinski, VERT Scientific Committee, Switzerland**



**Lunch @ Restaurant (13:05-14:00)**

### Session-III Continues...

**14:00-14:25**

**Title: Reusable Fiberglass and Polyester Combined Total Contact Cast System for Treatment of Plantar Diabetic Foot Ulcers: Efficacy and Cost-Effectiveness**

**Dr. Alper Erkin, Kocaeli Academy Hospital, Turkey**



**14:25-14:50**

**Title: From Biomarker to Burden? Troponin Utilisation, Cost and Prognostic Performance in 3,106 Consecutive Patients**

**Dr. Shirisha, Aneurin Health Board, UK**



**Vienna, Austria**

# International Conference

## Day-2 (July 22, 2026)

**14:50-15:15**

**Title:** Nursing knowledge in cardio-oncology: results of an international learning needs-assessment survey

**Mary Stuart**, IWK Health Centre, Canada



**15:15-15:40**



**Title:** miRNA-driven downregulation of cholesterol biosynthesis through SREBP2 inhibition suppresses uveal melanoma metastasis

**Dr. Pierre Hardy**, University of Montreal, Canada

**15:40-16:05**

**Title:** Vascular type Ehlers-Danlos syndrome with intra-abdominal hemorrhage due to ruptured hepatic aneurysm: A case report

**Dr. Masaou Tanaka**, Wakayma medical university, Japan



**16:05-16:25**



**Title:** Recent Developments in Cardiac surgery in Zimbabwe

**Dr. Simukayi Percy Machawira**, Parirenyatwa Hospital, Harare zimbabwe

**Refreshment Break (16:25-16:45)**

**DAY 02 CONCLUDES**

**Vienna, Austria**

# VIRTUAL PROGRAM

JULY 22, 2026

CET Time Zone  
09:00 AM

**Meeting ID: 858 2178 6818**

**Passcode: Conf@2026**

# International Conference

## Day-2 (July 22, 2026)



**09:00-09:20**

**Title: Our Biology Working Against Us if We Want to Lose Weight**

**Prof. Joseph Proietto**, University of Melbourne, Australia

**09:20-09:40**

**Title: Epigenetic regulation in obesity-related kidney disease**

**Prof. Sonia Saad**, Kolling Institute of Medical Research, University of Sydney, Australia



**09:40-09:50 (Poster Presentation)**

**Title: The Hypothyroidism Conundrum in Thought Bubbles**

**Prof. Timothy Alexander Welborn**, Australian Diabetes Society, Australia

**09:50-10:10**

**Title: Molecular mechanisms of cardiovascular complications in intermittent hypoxia**

**Prof. Shin Takasawa**, Nara Medical University, Japan



**10:10-10:30**



**Title: Effect of D- $\beta$ -Hydroxybutyric Acid on Body Fat in Japanese Adults: A Randomized, Double-Blind, Placebo-Controlled Study**

**Mr. Shohei Katsuya**, Osaka Gas, Japan

**Vienna, Austria**

# International Conference

## Day-2 (July 22, 2026)

### 10:30-10:40 (Poster Presentation)



**Title:** Renin-independent aldosteronism and chronic kidney disease in diabetes: Observational and Mendelian randomization analyses

**Dr. Yi Luo**, Department of Endocrinology, Bishan Hospital of Chongqing Medical University, Chongqing, 402760, China

### 10:40-11:00

**Title:** Stroke in individuals with hypertrophic cardiomyopathy and sleep apnea  
**Dr. Lin Chen**, Cardiovascular Center, School of Medicine, China



### 11:00-11:20



**Title:** Clinical outcomes of frozen-thawed blastocysts with twice noninvasive chromosome screenings  
**Prof. Kai Deng**, Hebei Maternity Hospital, China

### 11:20-11:40

**Title:** Muscle-derived Estrogen: metabolism, mechanisms, and exercise-induced changes  
**Prof. Rengfei SHI**, Shanghai University of Sport, China



### 11:40-12:00



**Title:** Elevated Frontal QRS-T Angle as a Predictor of Cardiovascular Risk in Graves' Disease: A Comparative Study  
**Mr. Zhen-wang**, The Second Affiliated Hospital of Anhui Medical University, China

**Vienna, Austria**

# International Conference

## Day-2 (July 22, 2026)

**12:00-12:20**

**Title: TBA**

**Dr.Yao-Kuang Huang** , Taipei Medical University, Taiwan



**12:20-12:40**



**Title: Echinochrome guarding effect against sodium arsenite-induced hepatorenal toxicity in rats**

**Dr. Ahmed Abdelghany Damanhory**, Batterjee Medical College, Saudi Arabia

**12:40-13:00**

**Title: Real-World Evidence on Long COVID-19 in Greece: A Multicenter, Cross-Sectional Study (LONCOV2)**

**Dr. Panagiota Styliara**, MENARINI HELLAS, Greece



**13:00-13:20**



**Title: Arrhythmogenic risk of cenobamate in patients with myocardial lesions by inhibition of Nav1.5 and Cav1.2 ion channels**

**Bogdan Amuzescu**, University of Bucharest, Romania

**13:20-13:40**

**Title: When the Stream Refuses to Flow: Use of Three Paclitaxel-Releasing DCB Balloons for the Treatment of an Occluded RCA in an 81-Year-Old Patient With STEMI**

**Magdalena Kwiatkowska**, Medical University of Warsaw, Poland



**Vienna, Austria**

# International Conference

## Day-2 (July 22, 2026)



**13:40-14:00**

**Title: Autoimmune diseases in type 1 diabetes: Often overlooked?**

**Dr. Ludwig-Schaaf**, Max Planck Institute Psychiatry, Germany

**14:00-14:20**

**Title: Utility of Breath-Holding Time in Monitoring Acute Neuromuscular Respiratory Failure in Bulbar-Onset Myasthenia Gravis: A Case Report**

**Dr. Saboor Zulfiqar**, University Hospitals Birmingham NHS Trust, UK



**14:20-14:40**

**Title: Hypertrophic Pulmonary Osteoarthropathy as an Initial Manifestation of Lung Cancer**

**Sarra K Mohamed Ahmed**, Walsall healthcare NHs trust, UK

**14:40-15:00**

**Title: Study risk factors, clinical profile, and outcome in hospitalized COVID-19 geriatric patients**

**Pankaj sahu**, Salisbury NHS foundation trust, UK



**15:00-15:20**

**Title: Students' Perspective on Integrating Online Clinical Scenarios with Virtual Anatomy Teaching**

**Abdulshakor S Ali**, UK

**Vienna, Austria**

# International Conference

## Day-2 (July 22, 2026)

**15:20-15:40**



**Title: Telemedicine: a bridge over knowledge gaps in pediatric health care**

**Dr. Evelyn Eisenstein, University of the State of Rio de Janeiro, Brazil**

**15:40-15:50 (Poster Presentation)**

**Title: Effect of aged garlic extract on blood pressure and other cardiovascular markers in hypertensive patients and its relationship with dietary intake**

**Dr. Tiago Marcel Santos Vila-Nova, University of Sergipe, Brazil**



**15:50-16:10**



**Title: Combination of a Micronutrient Mixture, Probiotics, Omega3, and Collagen Peptides may Prevent and Improve Treatment of Diabetes**

**Prof. Kedar N Prasad, Engage Global, USA**

**16:10-16:30**

**Title: Outcomes of a Virtual 10-Week COVID-19 and Psychosis Program in an HMO:**

**Sallee & Renwick, Kaiser Permanente, North-America**



**16:30-16:50**

**Title: Emerging Consensus in Corticosteroid Therapy for Severe Community-Acquired Pneumonia: A Two-Decade Evidence Review**

**Dr. Alejandro chapa-rodriguez, Cape fear valley medical center, USA**



**Vienna, Austria**

# International Conference

## Day-1 (July 21, 2026)

**16:50-17:10**



**Title: Eliminating Hypoxia During Paralytic Intubation: A Progressive Animal Series**

**Dr. Chris Salvino, Saint Francis Health System, USA**

**17:10-17:20 (Poster Presentation)**

**Title: The Alive "Cardiac Voodoo" - Concomitant status epilepticus, atypical posterior reversible encephalopathy syndrome and Takotsubo cardiomyopathy**

**Dr. Luiza Harutyunyan's, California Touro University, USA**



**17:20-17:40**

**Title: Transthyretin cardiac (TTR) amyloidosis, polyneuropathy and dementia**

**Rodica Elena Petrea, California Touro University, USA**

**DAY 02 VIRTUAL SESSION CONCLUDES**

**Vienna, Austria**

## 2<sup>nd</sup> Edition of International Summit on Diabetes, Endocrinology and Metabolic Disorders July 21-22, 2026 | Vienna, Austria



### Cong-Yi Wang

*Tongji Hospital, Tongji Medical College, Huazhong University of Sciences and Technology, Wuhan, China*

#### **Protein Methylation, a Wrestler for Chromatin Structure, Modulates the Risk of Metabolic Disorders**

Skeletal muscle is a critical organ in maintaining homeostasis against metabolic stress, and histone post-translational modifications are pivotal in those processes. However, the intricate nature of histone methylation in skeletal muscle and its impact on metabolic homeostasis have yet to be elucidated. Here, we report that mitochondria-rich slow-twitch myofibers are characterized by significantly higher levels of H3K36me2 along with repressed expression of Kdm2a, an enzyme that specifically catalyses H3K36me2 demethylation. Deletion or inhibition of Kdm2a shifts fuel use from glucose under cold challenge to lipids under obese conditions by increasing the proportion of mitochondria-rich slow-twitch myofibers. This protects mice against cold insults and high-fat-diet-induced obesity and insulin resistance. Mechanistically, Kdm2a deficiency leads to a marked increase in H3K36me2 levels, which then promotes the recruitment of Mrg15 to the Esrrg locus to facilitate its precursor messenger RNA splicing, thereby reshaping skeletal muscle metabolic profiles to induce slow-twitch myofiber transition. Collectively, our data support the role of Kdm2a as a viable target against metabolic stress.

**Keywords:** Kdm2a, H3K36me2, Histone post-translational modifications, mitochondria, myofiber transition, metabolic stress

#### **Biography**

Cong-Yi Wang, PhD, is the Director of the NHC Key Laboratory of Respiratory Diseases and a Professor at the Center for Biomedical Research, Tongji Hospital, Tongji Medical College, Huazhong University of Science and Technology, Wuhan, China. He received his PhD in Medical Immunology from Tongji Medical College and has established an internationally recognized research program in immunology, metabolism, and translational medicine. Prof. Wang has served on multiple prestigious study sections and review panels, including NIH, ADA, JDRF, the Wellcome Trust, and national funding agencies across Asia and Europe. He holds key editorial roles, including Editor-in-Chief of the International Journal of Molecular Epidemiology and Genetics and Associate Editor of Frontiers in Immunology. His research has been supported by major national and international grants and has resulted in 17 patents and over 210 peer-reviewed publications in leading journals such as NEJM, Cell Metabolism, Nature Communications, Diabetes, and Diabetologia.

## 2<sup>nd</sup> Edition of International Summit on **Diabetes, Endocrinology and Metabolic Disorders** July 21-22, 2026 | Vienna, Austria



### **Adamidis Sotirios MD PhD**

*Head of Internal Medicine Department Athens Medical Center EsoDiMeSO President*

#### **Co-Authors**

Adamidis Nikolaos Internist Berkshire Hospital United States - Clinical Practice

Adamidi Sofia MD - Internist - Charlton Memorial Hospital Massachusetts

Papadopoulou Nektaria MD, PhD - Endocrinologist Linkoping University Hospital - Sweden

Georgakopoulou Vasiliki MD, PhD, MSc – Pulmonologist-Tuberculosis Specialist, Department of Pathophysiology, National and Kapodistrian University of Athens

### **Integrated Metabolic and Topical Therapy for Cellulite in Women With Metabolic Syndrome and Insulin Resistance: A Protocol Using Tirzepatide and G21 Topical Formulation**

Metabolic syndrome (MetS) represents a cluster of metabolic abnormalities including insulin resistance, central obesity, hypertension, and dyslipidemia, and is strongly associated with an increased risk of cardiovascular disease and type 2 diabetes. In our previous study entitled Exploring the Link Between Metabolic Syndrome and Cellulite (Cureus. 2024 Jun 29;16(6):e63464), we examined the potential association between MetS and cellulite by focusing on the shared pathophysiological mechanisms underlying both conditions. Cellulite, characterized by a dimpled skin appearance predominantly affecting women, has traditionally been considered a cosmetic concern; however, emerging evidence suggests that it may reflect deeper metabolic and structural alterations within adipose and connective tissue.

Our earlier review highlighted several overlapping biological pathways between MetS and cellulite, including chronic low-grade inflammation, microcirculatory dysfunction, extracellular matrix remodeling, adipocyte hypertrophy, and hormonal imbalance. These mechanisms suggest that cellulite may serve as a clinical marker of underlying metabolic dysregulation rather than merely a superficial dermatologic condition.



## 2<sup>nd</sup> Edition of International Summit on Diabetes, Endocrinology and Metabolic Disorders July 21-22, 2026 | Vienna, Austria

In the present work, we report newer clinical observations derived from the follow-up of 101 patients treated with a combined therapeutic protocol consisting of tirzepatide and CRMP-based G21 topical gel. Particular emphasis was placed on inflammatory markers, hormonal modulation, and changes in adipose tissue remodeling. Rapid weight loss induced by substantial subcutaneous fat reduction, such as that observed with tirzepatide therapy, may lead to tissue laxity and skin sagging due to the loss of structural support previously provided by adipose tissue. This highlights the need for targeted anti-laxity and anti-cellulite interventions.

The EU-patented G21 topical formulation, when used concomitantly with tirzepatide, may provide complementary therapeutic benefits. Tirzepatide appears to exert metabolic and potential antifibrotic effects, including modulation of extracellular matrix stiffness and reduction of chronic adipose tissue inflammation, while G21 gel may promote dermal remodeling and tissue tightening. This combined approach may therefore improve the clinical appearance of cellulite while simultaneously addressing underlying metabolic dysfunction. A deeper understanding of the interaction between metabolic syndrome and cellulite may contribute to improved prevention, diagnosis, and therapeutic strategies.

**Keywords:** Metabolic syndrome; Cellulite; Tirzepatide; Adipose remodeling; Inflammation; Skin laxity

### Biography

Dr. Sotirios Adamidis, MD, PhD, is an expert in diabetes, obesity, and cardiometabolic diseases. He graduated from the National and Kapodistrian University of Athens, School of Medicine, and is board certified in Internal Medicine. He is Director of the Internal Medicine and Lifestyle Medicine Departments at Athens Medical Center and President of the European Society of Diabetes, Metabolic Syndrome and Obesity. Dr. Adamidis is a member of the American Diabetes Association and the Southern Medical Association and serves on several editorial boards. Author of scientific articles and books on metabolic health, he frequently appears in the media and shares educational content on diabetes, obesity, exercise, and metabolic health online.

## 2<sup>nd</sup> Edition of International Summit on Diabetes, Endocrinology and Metabolic Disorders July 21-22, 2026 | Vienna, Austria



**Yiping Qiu<sup>1</sup>, Yunyun Zhu<sup>2</sup>**

*1Tongde Hospital of Zhejiang Province Affiliated to Zhejiang Chinese Medical University (College of Integrated Traditional Chinese and Western Medicine Clinical Medicine), Hangzhou, Zhejiang, China*

*2Tongde Hospital of Zhejiang Province Affiliated to Zhejiang Chinese Medical University (Tongde Hospital of Zhejiang Province), Hangzhou, Zhejiang, China*

### **Association of intradialytic pulse-rate average real variability with adverse outcomes in maintenance hemodialysis patients with diabetes**

#### **Objective**

To evaluate the association between intradialytic pulse-rate average real variability (PR-ARV) and adverse outcomes in maintenance hemodialysis patients with diabetes.

#### **Background**

Hemodialysis induces rapid hemodynamic stress, whereas diabetes-related autonomic dysfunction may impair compensatory responses. Pulse rate (PR), routinely recorded during oscillometric blood pressure monitoring, may provide a feasible dynamic marker; however, its prognostic relevance during hemodialysis remains unclear. Method: This prospective single-center cohort enrolled 118 adults receiving maintenance hemodialysis. PR was measured at six predefined time points during five long-interval sessions over one month. PR-ARV was calculated as the mean absolute difference between consecutive PR measurements. The primary outcome was a composite of cardio-cerebrovascular events or all-cause mortality. Associations were assessed using multivariable Cox and Firth logistic regression models.

#### **Results**

During a median follow-up of 17.2 months, 39 participants developed the composite outcome and 12 died. Higher PR-ARV was independently associated with the composite outcome (adjusted hazard ratio per 1-bpm increase, 1.20; 95% confidence interval, 1.04–1.38). Compared with the lowest PR-ARV quartile, the highest quartile was associated with higher odds of the composite outcome (odds ratio, 3.33; 95% confidence interval, 1.03–11.65) and all-cause mortality (odds ratio, 5.74; 95% confidence interval, 1.08–58.29).

#### **Conclusion**

Greater intradialytic PR-ARV was associated with adverse outcomes, particularly all-cause mortality, in maintenance hemodialysis patients with diabetes. Serial PR measurements obtained during routine dialysis may provide a low-burden marker for risk stratification and warrant validation in larger multicenter cohorts.



## 2<sup>nd</sup> Edition of International Summit on Diabetes, Endocrinology and Metabolic Disorders July 21-22, 2026 | Vienna, Austria

**Keywords:** pulse-rate average real variability, Diabetes mellitus, hemodialysis,

### **Biography:**

(1) Qiu Yiping is a Master's candidate in Clinical Medicine at Zhejiang Chinese Medical University, China. Her research aims to optimize cardiovascular risk stratification for patients with diabetic kidney disease on hemodialysis. She is involved in a prospective study that utilizes multidimensional clinical data, including dynamic intradialytic physiological signals, to build predictive models. Ms. Qiu looks forward to presenting and discussing this work at the conference.

(2) Zhu Yunyun, M.D., is an Associate Chief Physician and Master's Supervisor at Zhejiang Provincial Tongde Hospital. She is dedicated to clinical and translational research in kidney and metabolic disorders, with a focus on diabetic kidney disease. Her work emphasizes discovering novel risk indicators and optimizing management strategies. Dr. Zhu has authored 8 peer-reviewed papers as the first author and has led or participated in 11 research projects. She looks forward to interdisciplinary discussions at this summit.

## 2<sup>nd</sup> Edition of International Summit on **Diabetes, Endocrinology and Metabolic Disorders** July 21-22, 2026 | Vienna, Austria



**\*Hiroshi Itoh, Masami Tanaka**

*HI: Specially-appointed Professor, Center for Preventive Medicine, Keio University, Tokyo, Japan*  
*MT: Midtown Clinic East, Tokyo Japan*

### **Possible mechanisms of action of glucagon-like peptide-1 receptor agonists on blood pressure beyond body weight**

Glucagon-like peptide-1 (GLP-1) increases insulin and decreases glucagon secretion from the pancreas reacting to nutrient ingestion. Because a plasma half-life of native GLP-1 is short, several synthesized GLP-1 receptor agonists (RAs) were innovated for the treatment of type 2 diabetes mellitus (DM). In clinical trials, GLP-1 RAs were shown to significantly reduce blood pressure (BP) besides HbA1c and body weight (BW), suggesting the potential as anti-hypertensive medication of individuals with type 2 DM. Although the hypotensive effect of GLP-1 RAs seems to be caused by BW reduction, other mechanisms other than BW reduction could be implied by the results of mediation meta-analysis, which suggests an involvement of BW-independent hypotensive effect of GLP-1 RA, along with the clinical evidences of weak or no correlations, and different time-course between BP lowering and BW reducing effects. Both human and animal studies demonstrated inconsistent BP response to acute administration but showed hypotensive effect of chronic administration of GLP-1/ GLP-1 RAs. Enhancement of natriuresis by inhibiting sodium hydrogen exchanger at renal proximal tubules or alleviating angiotensin II activity, and stimulation of vasodilation can be recognized as possible mechanisms of hypotensive effect beyond BW. In 2003, we proposed “Metabolic Domino”, which illustrates time-course of the whole picture of metabolic syndrome, that is, the cause, pathophysiology and complications. Since GLP-1 RAs exert three beneficial actions, that are glucose, BW and BP lowering, they are highly expected to exert potent and coordinated effects for combating Metabolic Domino.

**Keywords:** hypertension, diabetes mellitus, obesity, metabolic syndrome, glucagon-like peptide-1, Metabolic Domino

#### **Biography**

Hiroshi Itoh was the professor of Department of Endocrinology, Metabolism and Nephrology, Keio University School of Medicine, Tokyo, Japan and was the president of Japanese Society of Hypertension, Japan Endocrine Society, and Japanese Society of Cardiovascular Endocrinology and Metabolism. He received Takamine Jokichi Award, Expert Investigator Award of Japanese Society of Diabetic Complications, Imura Clinical Research Award, Japan Endocrine Society Award and Japanese Society of Hypertension Honorary Award. His research interests include hypertension, diabetes mellitus, metabolic syndrome, cardiovascular hormones, diabetic nephropathy and longevity medicine.

## 2<sup>nd</sup> Edition of International Summit on Diabetes, Endocrinology and Metabolic Disorders July 21-22, 2026 | Vienna, Austria



**\*Hiroshi Itoh, Masami Tanaka**

*HI: Specially-appointed Professor, Center for Preventive Medicine, Keio University, Tokyo, Japan*

*MT: Midtown Clinic East, Tokyo Japan*

### **Possible mechanisms of action of glucagon-like peptide-1 receptor agonists on blood pressure beyond body weight**

Glucagon-like peptide-1 (GLP-1) increases insulin and decreases glucagon secretion from the pancreas reacting to nutrient ingestion. Because a plasma half-life of native GLP-1 is short, several synthesized GLP-1 receptor agonists (RAs) were innovated for the treatment of type 2 diabetes mellitus (DM). In clinical trials, GLP-1 RAs were shown to significantly reduce blood pressure (BP) besides HbA1c and body weight (BW), suggesting the potential as anti-hypertensive medication of individuals with type 2 DM. Although the hypotensive effect of GLP-1 RAs seems to be caused by BW reduction, other mechanisms other than BW reduction could be implied by the results of mediation meta-analysis, which suggests an involvement of BW-independent hypotensive effect of GLP-1 RA, along with the clinical evidences of weak or no correlations, and different time-course between BP lowering and BW reducing effects. Both human and animal studies demonstrated inconsistent BP response to acute administration but showed hypotensive effect of chronic administration of GLP-1/ GLP-1 RAs. Enhancement of natriuresis by inhibiting sodium hydrogen exchanger at renal proximal tubules or alleviating angiotensin II activity, and stimulation of vasodilation can be recognized as possible mechanisms of hypotensive effect beyond BW. In 2003, we proposed “Metabolic Domino”, which illustrates time-course of the whole picture of metabolic syndrome, that is, the cause, pathophysiology and complications. Since GLP-1 RAs exert three beneficial actions, that are glucose, BW and BP lowering, they are highly expected to exert potent and coordinated effects for combating Metabolic Domino.

**Keywords:** hypertension, diabetes mellitus, obesity, metabolic syndrome, glucagon-like peptide-1, Metabolic Domino

### **Biography**

Masami Tanaka is working at the Midtown Clinic East, Tokyo, Japan as Acting Director, after working at the Department of Medicine, Tokyo Women's Medical University, Tokyo, Japan as Associate Professor. Before that, he worked at the Department of Endocrinology, Metabolism and Nephrology, Keio University School of Medicine with the presenting author, Hiroshi Itoh. His research interests include hypertension, diabetes, metabolic syndrome, nephrology and endocrinology. He has been conducted many clinical studies concerning hypertension, diabetes and dyslipidemia. At present, he is interested in pre-emptive medicine and education for medical staff and individuals with diabetes mellitus.

## 2<sup>nd</sup> Edition of International Summit on **Diabetes, Endocrinology and Metabolic Disorders** July 21-22, 2026 | Vienna, Austria



### **Pralay Maiti and Subham Sekhar Mandal**

*School of Materials Science and Technology, Indian Institute of Technology (Banaras Hindu University), Varanasi 221005, India.*

#### **Injectable Hydrogel for Controlled Release of Insulin: In-vivo Diabetic Animal Model Study**

Diabetes mellitus is a chronic metabolic disorder characterized by impaired insulin secretion or insulin resistance, leading to disrupted glucose homeostasis and elevated blood glucose levels. Conventional management typically relies on frequent subcutaneous insulin injections to maintain normoglycemia; however, this approach often suffers from low patient compliance, localized insulin amyloidosis, and limited therapeutic duration. Several alternative routes of insulin administration, such as oral, inhalation, buccal, and transdermal delivery, have been extensively explored to overcome the limitations and patient discomfort associated with frequent subcutaneous insulin injection. we have developed an injectable cyclodextrin-extended polyurethane /carboxymethyl cellulose hydrogel for sustained insulin delivery. The unique structural design of the copolymer, combined with CMC, enables the formation of an injectable hydrogel matrix suitable for controlled drug release. The synthesis and structural properties of the copolymer are confirmed through spectroscopic, chromatographic, and rheological analyses. In vivo studies using diabetic Swiss albino mice demonstrated that subcutaneous administration of insulin-loaded hydrogel achieved prolonged and steady insulin release for up to 72 hours, significantly outperforming conventional insulin injections (<12 hours). Histopathological evaluations confirmed the biocompatibility and biodegradability of the hydrogel, with no observed adverse effects on major organs. These findings suggest that the hydrogel is a promising platform for sustained insulin delivery, offering an effective strategy for improved diabetes management. The gel depot formation in mice model and the in vivo insulin release profile are evaluated by monitoring blood glucose levels after subcutaneous administration of injectable hydrogel.

**Keywords:** diabetes; insulin delivery; injectable hydrogel; sustained release.



## 2<sup>nd</sup> Edition of International Summit on **Diabetes, Endocrinology and Metabolic Disorders** **July 21-22, 2026 | Vienna, Austria**

### **Biography**

Dr. Pralay Maiti is currently a senior professor and ex-coordinator in the School of Materials Science and Technology, IIT (BHU), Varanasi. Prof. Maiti has received his Master in Chemistry from Indian Institute of Technology, Kharagpur in 1991 and Ph.D. in Polymer in 1996 from The Indian Association for the Cultivation of Science (Jadavpur University). He was COE Researcher and Lecturer at Venture Business Laboratory, Hiroshima University, Japan (1997-1999) and was post-doctoral fellow at Toyota Technological Institute, Japan (1999-2001). He was Visiting Scientist at Cornell University, USA from 2002 to 2004. His current research interests include drug delivery vehicle, biomaterials and energy materials. Most innovative contribution of Prof. Maiti is in the field of materials chemistry related to drug delivery using biodegradable polymers, self-assembly and energy materials through nanotechnology and their uses in energy sector. He has published more than 270 papers in high impact journals, 39 patents (few of them are commercialized) and 34 book chapters and h-index of 61 and his citation is more than 18,000.

## 2<sup>nd</sup> Edition of International Summit on Diabetes, Endocrinology and Metabolic Disorders July 21-22, 2026 | Vienna, Austria



**Claudia C. Branco<sup>a,b</sup> (presenting author), Joana Duarte<sup>a</sup>, Xavier Catena<sup>a,c,d,e</sup>, Jaime Gonzalez<sup>a</sup>, Andrea Capocci<sup>a</sup>, Luisa Mota-Vieira<sup>a,b</sup>**

<sup>a</sup> *Molecular Genetics and Pathology Unit, Hospital of Divino Espirito Santo of Ponta Delgada, EPER, São Miguel Island, Azores, Portugal*

<sup>b</sup> *BioISI – Biosystems & Integrative Sciences Institute, Faculty of Sciences, University of Lisboa, Lisboa, Portugal*

<sup>c</sup> *Molecular Medicine and Gene Therapy, Lund Stem Cell Centre, Lund University, Sweden.*

<sup>d</sup> *Wallenberg Center for Molecular Medicine at Lund University, Sweden.*

<sup>e</sup> *Asgard Therapeutics AB, Medicon Village, 223 81 Lund, Sweden.*

### **Multilocus Genetic Risk Profiling of Atherosclerosis and Venous Thromboembolism in Azores and Mainland Portuguese Populations**

Genome-wide association studies (GWAS) have identified multiple genetic variants associated with cardiovascular disease risk, yet population-specific differences remain insufficiently characterized, particularly in geographically isolated regions. This study investigated whether the frequencies of single nucleotide polymorphisms (SNPs) associated with atherosclerosis (AT) and venous thromboembolism (VTE) differs between populations from Azorean archipelago and mainland Portugal, and how these compare with other global populations. A total of 19 SNPs related to AT and VTE were analysed in samples from the Azores and mainland Portugal, and allele frequencies were compared with European, Asian, and African reference populations using chi-square tests. Multilocus genetic profile (MGP) analyses were performed to estimate cumulative genetic risk for both conditions. No significant differences were observed between Azorean and mainland Portuguese populations at the single-variant level; however, eight SNPs in ADAMTS7, PCSK9, APOE, and LDLR genes showed significant differences compared with European populations ( $p < 0.05$ ). MGP analysis indicated that 11.2% of Azoreans and 7.4% of mainland individuals present a high genetic risk for atherosclerosis, whereas VTE risk was higher in the mainland population (6.5%) than in the Azores (4.1%). Significant intra-archipelago differences were observed, with the Eastern group showing the highest VTE risk and the Central group the highest AT risk. Overall, genetic risk patterns were broadly consistent with European populations, but regional differences suggest that local genetic background and socio-cultural factors, including diet and physical activity, may modulate disease risk. These findings highlight the importance of population-specific genetic assessments and support their integration into preventive and personalized cardiovascular healthcare strategies, particularly in small and isolated populations such as the Azores.

**Keywords:** Azores; Portugal; Atherosclerosis; Thromboembolism; Genetic predisposition to disease; Cardiovascular disease.



## 2<sup>nd</sup> Edition of International Summit on **Diabetes, Endocrinology and Metabolic Disorders** **July 21-22, 2026 | Vienna, Austria**

### **Biography**

Cláudia Margarida Aguiar Castelo Branco is a researcher in Human Genetics specializing in population genetics, cardiovascular disease risk, and molecular diagnosis. Her research is oriented toward translational and implementation studies of genetic testing in small hospital environments, with a focus on improving personalized medicine in the Azores archipelago, a ultraperipheral region. She has contributed to multidisciplinary projects combining genetic, clinical, and public health data.

## 2<sup>nd</sup> Edition of International Summit on Diabetes, Endocrinology and Metabolic Disorders July 21-22, 2026 | Vienna, Austria



**Mary Ingle**<sup>1</sup>, Rasha Khatib<sup>1</sup>, Yuxian Du<sup>2</sup>, Vesta Valuckaite<sup>2</sup>, Rakesh Singh<sup>2</sup>, Sheldon Kong<sup>2</sup>, Todd Williamson<sup>2</sup>, Sarang Baman<sup>1</sup>

<sup>1</sup> Advocate Aurora Enterprises, Downers Grove, Illinois, USA.

<sup>2</sup> Bayer United States of America, Whippany, New Jersey, USA

**Area deprivation index predicts annual chronic kidney disease screening and chronic kidney disease development among patients with newly diagnosed hypertension and type 2 diabetes in a large midwestern health system: a retrospective cohort study**

### Background

We explore how area deprivation index (ADI), a national ranking of neighborhood sociodemographic disadvantage is associated with chronic kidney disease (CKD) screening and development among patients with newly diagnosed hypertension (HTN) or type 2 diabetes (T2DM).

### Methods

Patients (n=235 208) with a new HTN or T2DM diagnosis between 2015 and 2018 in a large healthcare system were followed for 3 years to evaluate CKD screening (one estimated glomerular filtration rate and urinary albumin-to-creatinine ratio) and CKD development. Multivariable logistic regression models evaluated associations between ADI quintiles with CKD screening and diagnosis.

### Results

Most patients were white (57%) females (55%) with HTN (65%). Few were screened in the first year after diagnosis (17%) and 9% developed CKD within 3 years. The odds of patients being screened were 54% greater (OR 1.54; 95% CI 1.48 to 1.60) and 146% greater (OR 2.46; 95% CI 2.19 to 2.76) for developing CKD for most deprived compared with the least deprived.

### Conclusions

Patients with high ADI were more likely to be screened and almost twice as likely to develop CKD compared with the least deprived. Results highlight the importance of systematic health record data collection in large healthcare systems to evaluate social factors with health outcomes.

**Keywords:** epidemiologic factors; epidemiologic measurements; epidemiologic methods; chronic kidney disease; social determinant of health



## 2<sup>nd</sup> Edition of International Summit on **Diabetes, Endocrinology and Metabolic Disorders** **July 21-22, 2026 | Vienna, Austria**

### **Biography**

Dr. Ingle is a Research Scientist, Associate at the Advocate Health Research Institute. Prior to the Research Institute, Dr. Ingle's work focused on the impact of environmental exposures on reproductive health using several longitudinal cohorts. Since joining the Advocate Health Research Institute in 2020, Dr. Ingle has expanded her research into health disparities, cancer epidemiology and chronic health. She currently serves as the Principal Investigator for the MATernal & Infant Newtork, a Centers for Disease Control sponsored mother-infant dyad longitudinal project. Dr. Ingle holds a PhD in environmental epidemiology from the University of Michigan.

## 2<sup>nd</sup> Edition of International Summit on Diabetes, Endocrinology and Metabolic Disorders July 21-22, 2026 | Vienna, Austria



**Romano Vrabec<sup>1</sup>, Martina Tomić<sup>1</sup>, Toma Babić<sup>1</sup>,  
Tomislav Bulum<sup>2,3</sup>, Spomenka Ljubić<sup>2,3</sup>, Tomislav  
Božek<sup>2,3</sup>,**

*<sup>1</sup>Department of Diabetic Eye Complications, Vuk Vrhovac University Clinic for Diabetes,  
Endocrinology and Metabolic Diseases, Merkur University Hospital, Zagreb, Croatia*

*<sup>2</sup>Department of Diabetes et Endocrinology, Vuk Vrhovac University Clinic for Diabetes,  
Endocrinology and Metabolic Diseases, Merkur University Hospital, Zagreb, Croatia*

*<sup>3</sup>School of Medicine, University of Zagreb, Zagreb, Croatia*  
*Author's Name (Presenting Author's and  
Co-Author's) University/Institute/Hospital/organization, City, Country*

### Association between macular ganglion cell layer- inner plexiform layer and diabetic retinopathy

#### Background/Objectives

This study aimed to evaluate the association between the thickness of the macular ganglion cell layer-inner plexiform layer (GCL-IPL), a marker of retinal neurodegeneration, and diabetic retinopathy (DR), in type 2 diabetic patients (T2DM), and to determine the related risk factors.

#### Methods

This cross-sectional study included 50 eyes of 25 T2DM patients. Complete ophthalmological examination was performed, including color fundus photography and optical coherence tomography (OCT) of the macula. Data were analyzed using the software package Statistica™ 14.0.1.25 (TIBCO Inc., USA).

#### Results

Fifty eyes were divided into two groups: no DR (n = 34) and non-proliferative DR (NPDR) (n = 16). The NPDR group had longer diabetes duration (p = 0.042), higher HbA1c (p = 0.002), lower HDL cholesterol (p = 0.036), and also lower macular GC-IPL thickness (p = 0.027) than those without DR. The correlation between DR and GC-IPL was significantly negative (R = -0.319, p = 0.024). DR was positively related to diabetes duration (p = 0.047) and HbA1c (p = 0.003), while the relation between GC-IPL and diabetes duration (p = 0.042) and HbA1c (p = 0.043) was negative. Binary logistic regression analysis showed that HbA1c (OR = 2.77, p = 0.007) and HDL cholesterol (OR = 0.08, p = 0.031) were the main predictors for DR, whereas the best model for predicting the GC-IPL thickness (R<sup>2</sup> = 0.223) obtained from stepwise regression analysis included HDL cholesterol, triglycerides, estimated glomerular filtration rate, and albumin/creatinine ratio.



## 2<sup>nd</sup> Edition of International Summit on **Diabetes, Endocrinology and Metabolic Disorders** **July 21-22, 2026 | Vienna, Austria**

### **Conclusions**

The negative correlation between macular GCL-IPL and DR indicates the coexistence of neurodegenerative and microvascular changes, linked by the well-known risk factors: diabetes duration and HbA1c.

**Keywords:** diabetic retinopathy; ganglion cell layer-inner plexiform layer; risk factors; type 2 diabetes.

### **Biography**

Dr. Romano Vrabec is a medical specialist at Merkur University Hospital in Croatia with extensive experience in internal medicine and clinical care. He is dedicated to delivering evidence-based treatment and advancing patient-centered healthcare practices. Dr. Vrabec actively contributes to multidisciplinary clinical management, integrating modern diagnostic approaches with effective therapeutic strategies. In addition to his hospital responsibilities, he engages in professional development and academic collaboration, supporting continuous medical education and research initiatives. His commitment to clinical excellence and innovation reflects his dedication to improving patient outcomes and strengthening healthcare standards within Croatia and internationally.

## 2<sup>nd</sup> Edition of International Summit on Diabetes, Endocrinology and Metabolic Disorders July 21-22, 2026 | Vienna, Austria



**Jiang Du<sup>1-3</sup>**

1. *Department of Radiology, University of California, San Diego, La Jolla, CA, USA*

2. *Radiology Service, VA San Diego Healthcare System, La Jolla, CA, USA*

3. *Shu Chien-Gen Lay Department of Bioengineering, University of California, San Diego, La Jolla, CA, USA*

### UTE MRI Can Detect Bone Quality Degradation in Diabetes

#### Introduction

Diabetes-associated skeletal fragility remains poorly characterized. Type 2 diabetes (T2D) is often associated with higher bone mineral density (BMD), a phenomenon known as the “diabetic paradox of bone fragility”. This dissociation between BMD and fracture risk underscores the critical role of bone quality, rather than bone quantity alone, in skeletal fragility. Chronic hyperglycemia disrupts bone metabolism through nonenzymatic glycation of the collagen matrix, oxidative stress, and microvascular dysfunction, all of which compromise the bone matrix and increase cortical porosity. T2D also shifts mesenchymal stem cell differentiation toward adipogenesis, further impairing osteoblast function. No validated imaging approach (e.g., DXA, CT, ultrasound, clinical MRI) can simultaneously assess cortical porosity, collagen matrix, and fat deposition in bone. Here, we proposed ultrashort echo time (UTE) MRI for comprehensive assessment of cortical bone quality.

#### Methodology

UTE-MRI was applied to 18 human bone samples (diabetes: n=10, control: n=8) using a 3T clinical scanner (GE Healthcare). Pore water and fat were mapped with spectrally selective and interleaved water imaging and fat imaging UTE (siWIFI-UTE), while water bound to collagen (bound water) was mapped with short TR adiabatic inversion recovery UTE (STAIR-UTE). Maps of pore water, bound water, and fat deposition were calculated to assess cortical porosity, organic matrix density, and fat deposition in cortical pores.

#### Results

The siWIFI-UTE sequence shows excellent pore water and fat maps, while STAIR-UTE shows high contrast bound water maps. The pore fat maps highlight fat deposition in diabetic bones. Increased pore water, reduced bound water, and increased fat deposition were observed in diabetic bones over control bones.

#### Conclusion

UTE-MRI detects increased pore water, reduced bound water, and increased fat deposition in diabetic bones.



## 2<sup>nd</sup> Edition of International Summit on **Diabetes, Endocrinology and Metabolic Disorders** **July 21-22, 2026 | Vienna, Austria**

**Keywords:** Diabetes, bone, fragility, porosity, collagen, fat

### **Biography**

Dr. Du is a Professor of Radiology and Bioengineering at UCSD. He has developed many UTE MRI techniques for quantitative imaging of clinical MRI “invisible” species such as bone and myelin. Dr. Du has published over 200 research articles, 30 book chapters, and one book. He has secured >\$30M in research funding. Dr. Du has chaired many conferences and workshops and served on the peer-review committees of numerous organizations. Dr. Du has received numerous awards, including the RSNA Research Scholarship, the AHA Young Investigator Award, the ARBIR Distinguished Investigator Award, and Fellow of AIMBE, ISMRM, and IAMBE.

## 2<sup>nd</sup> Edition of International Summit on Diabetes, Endocrinology and Metabolic Disorders July 21-22, 2026 | Vienna, Austria



### Seung-Kyu Han, MD, PhD

*Diabetic Wound Center and Department of Plastic Surgery, Korea University Guro Hospital Seoul, South Korea*

#### Impact of Skin Hydration on Microvascular Function and Wound Healing in Diabetic Foot Patients

Maintaining adequate skin hydration is essential in patients with diabetic foot, as xerotic skin can crack and develop fissures, increasing the risk of ulceration and infection. Although the nervous system is believed to play a key role in regulating skin moisture, no clinical studies have directly assessed its impact. Additionally, we observed that patients with impaired microcirculation often present with dry, rough, shiny, and desquamated skin. Based on these findings, we hypothesized that skin hydration levels may be associated with microvascular function and may, in turn, influence diabetic wound healing. This study aimed to: (1) evaluate the influence of peripheral nerve function and microvascularity on skin hydration in patients with diabetic foot, and (2) determine the impact of skin hydration on diabetic wound healing. For the first analysis, data from 266 patients with diabetic foot were included. Skin hydration was assessed using corneometry, and microvascular function was evaluated via transcutaneous partial oxygen tension (T<sub>cp</sub>O<sub>2</sub>). Peripheral neuropathy was assessed using the Semmes–Weinstein monofilament test, electromyography, and nerve conduction studies. Statistical analyses included linear-by-linear association trend tests and Pearson's chi-square. For the second analysis, wound healing outcomes were assessed in 263 patients with diabetic forefoot ulcers and categorized as healed without amputation, minor amputation, or major amputation. Skin hydration showed a strong and significant correlation with T<sub>cp</sub>O<sub>2</sub> ( $p < 0.001$ ), but no significant association with peripheral nerve function ( $p = 0.338$ ). Additionally, skin hydration levels were significantly associated with wound healing outcomes ( $p < 0.001$ ). In patients with diabetic foot, skin hydration is primarily influenced by microcirculatory status rather than peripheral nerve function. Furthermore, skin hydration level may serve as a useful predictor of wound healing outcomes.

**Keywords:** skin hydration, diabetic foot, wound healing

#### Biography

Dr. Seung-Kyu Han is a tenured Professor of Plastic Surgery at Korea University College of Medicine. With a distinguished career spanning three decades, Dr. Han has devoted his efforts to pioneering innovative techniques and materials aimed at improving both functional and aesthetic outcomes in skin and soft tissue restoration. Dr. Han's extensive literary contributions include authoring six books, nine book chapters, and over 320 scientific articles, 100 as the principal author in SCI journals. He's also edited six books. Previously, Dr. Han held prestigious roles as President of the Korean Wound Management Society and the Korean Society for Diabetic Foot.

## 2<sup>nd</sup> Edition of International Summit on **Diabetes, Endocrinology and Metabolic Disorders** July 21-22, 2026 | Vienna, Austria



**Mohammad Anwarul Bari<sup>1</sup>, Hironmoy Barmon<sup>2</sup>**

*<sup>1</sup>Associate Professor, Department of Medicine, Sir Salimullah Medical College, Dhaka, Bangladesh.*

*<sup>2</sup>Assistant Registrar, Medicine Unit 6, Sir Salimullah Medical College and Mitford Hospital, Dhaka, Bangladesh*

### **A Diagnostic Challenge: Disseminated Histoplasmosis Presenting as Adrenal Insufficiency and Recurrent Hypoglycemia in a Diabetic Patient**

#### **Background**

Adrenal insufficiency can complicate the management of pre-existing Diabetes Mellitus, often manifesting through unexplained recurrent hypoglycemia. While autoimmune etiology is common, infectious causes like disseminated histoplasmosis must be considered in endemic regions.

#### **Case Description**

A 46-year-old male with a 10-year history of Type 2 Diabetes presented with a two-month history of weight loss, progressive weakness, and recurrent altered consciousness associated with hypoglycemia. Despite discontinuing anti-diabetic medications, he continued to experience symptomatic hypoglycemic attacks (capillary blood glucose 2.3 mmol/L). Investigations revealed postural hypotension, hyponatremia (120 mmol/L), and low morning serum cortisol (4.2 mcg/dL). Imaging identified bilateral lobulated adrenal masses, and USG-guided FNAC confirmed disseminated histoplasmosis by showing budding yeasts within histiocytes.

#### **Discussion**

This case highlights the clinical paradox of a diabetic patient presenting with frequent hypoglycemia due to bilateral adrenal destruction by *Histoplasma capsulatum*. Adrenal involvement is a classic feature of disseminated histoplasmosis that can be overlooked in diabetic patients where hypoglycemia is often misattributed to medication.

#### **Conclusion**

Clinicians should maintain a high index of suspicion for adrenal insufficiency in diabetic patients with frequent, unexplained hypoglycemia and postural hypotension, particularly when imaging reveals adrenal masses.



## 2<sup>nd</sup> Edition of International Summit on **Diabetes, Endocrinology and Metabolic Disorders** **July 21-22, 2026 | Vienna, Austria**

### **Biography**

Dr. Mohammad Anwarul Bari is a distinguished medical professional serving as an Associate Professor in the Department of Medicine at Sir Salimullah Medical College, Dhaka. With a robust background in clinical medicine, he has contributed significantly to medical literature, having published numerous research articles and complex case studies in both national and prestigious international journals. His academic work focuses on diagnostic challenges in metabolic disorders and infectious diseases. Dr. Bari is a dedicated educator involved in training postgraduate residents and is committed to advancing evidence-based clinical practices through active research and international collaboration in the field of endocrinology

## 2<sup>nd</sup> Edition of International Summit on **Diabetes, Endocrinology and Metabolic Disorders** July 21-22, 2026 | Vienna, Austria



**Min Ho Park, Hee Won Ryu**

*Department of Surgery, Chonnam National University Hwasun Hospital & Chonnam National University Medical School, Hwasun-eup, Jeollanam-do, Korea*

### **Retained drainage tube fragment after thyroidectomy presenting as a palpable neck mass: a case report**

A retained drainage tube fragment after surgery is a rare complication with potentials for medical dispute. We report the case of a retained drainage tube fragment in the anterior neck following conventional thyroid surgery. To the best of our knowledge, this is the first report of its kind. A 61-year-old female patient who was found to have a retained Penrose drainage tube after thyroid surgery for a papillary thyroid cancer. The retained tube was detected 18 months after surgery presenting as a palpable neck mass. Neck ultrasonography revealed a hypoechoic lesion with tubular-shaped parallel hyperechoic lines, suggesting a retained drain tube. The lateral soft tissue neck radiograph demonstrated a radio-opaque drain tube in the anterior neck. The fragment of a Penrose drainage tube was neglected first, and then detected as a palpable neck mass 18 months after surgery. Removal of the drainage tube fragment was performed under local anesthesia. After the surgery, the operation site healed without any complications. Although drainage procedure is regarded to be easy, there can be associated complications including retained drain, bleeding, infection, or cosmetic problem. So, clinicians should be aware of rare complications associated with Penrose drainage tubes after thyroidectomy and perform this procedure carefully and gently to avoid them.

**Keywords:** Postoperative complications, Drainage, Thyroidectomy

### **Biography**

Min Ho Park is a Professor in the Department of Surgery at Chonnam National University Medical School and serves as Director of the Department of Endocrine Surgery at Chonnam National University Hwasun Hospital. He earned both his M.D. and Ph.D. in Medical Science from Chonnam National University, building a strong academic and clinical foundation in endocrine surgery. Since 2014, he has led advancements in endocrine surgical care, while his professorship, established in 2021, reflects his commitment to medical education and research. Dr. Park also expanded his global expertise as a Visiting Scholar at Harvard Medical School, particularly at the Center for Molecular Imaging at BIDMC. His contributions have been widely recognized through multiple awards, including Best Investigator Awards from the Korean Surgical Society and honors from international surgical forums. His research interests include thyroid and breast surgery, molecular imaging, and improving surgical outcomes in endocrine disorders.

## 2<sup>nd</sup> Edition of International Summit on Diabetes, Endocrinology and Metabolic Disorders July 21-22, 2026 | Vienna, Austria



**Yahi Abdlekader<sup>1,2</sup>, Ould-Kablia Samia<sup>3</sup>, Taazibt Akli<sup>1,2</sup>, Chanegriha Mounira<sup>1,2</sup>**

*<sup>1</sup> Department of Medicine, Unit of Endocrinology, Diabetology and Metabolic Diseases, Mother and Child Hospital of Army (MCHA), Algiers University Hospital, Algiers, Algeria. <sup>2</sup> University of health sciences, Faculty of Medicine, Algiers, Algeria. <sup>3</sup> Liberal endocrinologist, Algiers, Algeria, former head of the Endocrinology Department, Army Central Hospital, Algiers, Algeria.*

### **Primary Hyperparathyroidism and RAAS Activation : Evidence for an Emerging Endocrine Axis**

Once considered independent endocrine systems, recent evidence suggests a complex bidirectional interaction between the hormones that regulate phosphocalcic metabolism, especially parathormone (PTH), and the renine-angiotensine-aldosterone system (RAAS). Accumulated evidence suggests this interaction between PTH and aldosterone as an underlying mechanism for the increased risk of cardiovascular damage observed in primary hyperparathyroidism (PHPT). Therefore, it is highly probable that the increase in cardiovascular mortality in patients with PHPT is related to RAAS dysfunction.

#### **Methodology**

We studied this relationship in 71 patients with PHPT (9 men and 62 women) before and three months after parathyroidectomy (PTX) was performed in 37 of them.

#### **Results**

10% of our patients had hypokalemia at the time of diagnosis of PHPT, 42% had a biological profile favorable to primary hyperaldosteronism and 14% a biological profile compatible with secondary hyperaldosteronism. No statistically significant correlation was found between RAAS biomarkers and phosphocalcic biochemical parameters. Nevertheless, the distribution of our sample into two groups of hypertensive and non-hypertensive patients showed a significant correlation only in the group of non-hypertensive patients.

Although the data regarding the effect of PTX on RAAS are contradictory. Three months after PTX, we observed a significant increase in serum potassium and a significant decrease in aldosterone levels and aldosterone-renin ratio (ARR).

#### **Conclusion**

The potential impact of the recent mutual interaction between PTH and aldosterone on target organ injury qualifies this relationship as a worrying friendship for cardiovascular and metabolic health in patients with PHPT.

**Keywords:** PHPT, RAAS, Cardiovascular, Parathyroidectomy.



## 2<sup>nd</sup> Edition of International Summit on **Diabetes, Endocrinology and Metabolic Disorders** **July 21-22, 2026 | Vienna, Austria**

### **Biography**

Dr. Abdelkader Yahia is an Endocrinologist at the Mother and Child Hospital of Aemy, Algiers, Algeria, and a faculty member at the University of Health Sciences, Algiers.

His clinical and academic work focuses on a broad spectrum of endocrine disorders, with particular expertise in pituitary diseases and calcium-phosphate metabolism. In recent years, his research interests have expanded to include endocrine disorders during pregnancy and pediatric endocrinology.

## 2<sup>nd</sup> Edition of International Summit on Diabetes, Endocrinology and Metabolic Disorders July 21-22, 2026 | Vienna, Austria



**Adel Djebbar<sup>1</sup>, A. Yahil, MD. Benziane<sup>1</sup>, A.  
Taazibt<sup>1</sup>, C. Belhadi<sup>1</sup>, M. Bensaleh<sup>2</sup>, M.  
Chanegriha<sup>1</sup>**

*<sup>1</sup> Department of Medicine, Mother and Child Army Hospital, Algiers, Algeria  
<sup>2</sup> Department of Endocrinology, Central Army Hospital, Algiers, Algeria*

### **Prevalence and Associated Factors of Obstructive Sleep Apnea Syndrome in Patients with Turner Syndrome: A Prospective Pilot Study**

Turner syndrome is associated with several factors that may increase the risk of obstructive sleep apnea syndrome (OSAS), including craniofacial abnormalities, ear-nose-throat features, overweight, obesity, and endocrine comorbidities. The aim of this prospective pilot study was to assess the frequency of OSAS and to identify associated clinical, morphological, and therapeutic factors in patients followed for Turner syndrome. Seven patients were recruited from the Department of Medicine at the Mother and Child Army Hospital and the Endocrinology Department of the Central Army Hospital. Anthropometric data were collected, and all patients underwent an ENT examination, including assessment of tonsillar size using the Brodsky score and oropharyngeal anatomy using the Mallampati score. Craniofacial morphology was evaluated by cephalometric analysis. Clinical screening was performed using the Pediatric Sleep Questionnaire, with a positivity threshold of 0.33. Type 3 overnight respiratory polygraphy was performed during hospitalization, with manual interpretation according to AASM recommendations. The mean age was  $13.86 \pm 7.14$  years. Craniofacial abnormalities were observed in all patients, with a predominance of skeletal Class II patterns. Descriptive analysis showed positive correlations between the apnea-hypopnea index and body mass index, the PSQ score, and the duration of growth hormone therapy. These findings suggest a high frequency of OSAS in patients with Turner syndrome and support systematic screening combining validated questionnaires, ENT assessment, morphological evaluation, and sleep recording. Larger multicenter studies are needed to confirm these preliminary findings and to clarify the potential role of growth hormone therapy in OSAS severity.

**Keywords:** Turner syndrome; OSAS; polygraphy; screening; growth hormone; craniofacial

#### **Biography**

Dr. Adel Djebbar is a pulmonologist at the Department of Medicine, Mother and Child Army Hospital, Algiers, Algeria. His clinical and academic work focuses on respiratory diseases, with a particular interest in sleep-related breathing disorders, especially in the pediatric population. His areas of interest also include the relationship between obstructive sleep apnea, obesity, and endocrine or genetic disorders.

## 2<sup>nd</sup> Edition of International Summit on **Diabetes, Endocrinology and Metabolic Disorders** July 21-22, 2026 | Vienna, Austria



**Jianfeng Long**

*Department of Clinical Nutrition, Second Xiangya Hospital of Central South University, Changsha, China*

### **An Introduction to “Alleviative effect of probiotics and prebiotics on dry eye in type 2 diabetic mice through the gut-eye axis”**

Diabetes Mellitus (DM) is a metabolic disease that manifests as a state of “chronic low-grade inflammation”. Patients with DM have a disorder of intestinal flora. There is a discernible correlation between this disorder of intestinal flora and the onset and progression of eye diseases, which offers novel insights into treating eye diseases through the modulation of intestinal flora. Here, we demonstrated that a high-fat diet and streptozotocin injection-induced intestinal microbiota dysbiosis can lead to dry eye-like manifestations in T2DM mice. Probiotic and prebiotic treatments not only alleviated intestinal inflammation and barrier disruption, but also mitigated damage to the lacrimal barrier and suppressed immune cell infiltration and inflammatory responses. Additional mechanism investigation found that probiotics and prebiotics inhibited the TLR4/NF- $\kappa$ B signaling pathway and its downstream pro-inflammatory products both in the lacrimal gland and colon. 16S RNA sequencing identified a reduction in the bacterial genera Akkermansia and Lactobacillus in the fecal samples of DM mice. By contrast, treatment with probiotics and prebiotics led to a reshaping of the intestinal microbial community and a reduction in bile acid metabolites, such as taurocholic acid and deoxycholic acid. Our current study demonstrates that probiotic and prebiotic treatments can ameliorate dry eye-like symptoms and associated pathological changes in T2DM mice. Moreover, we proved that a high-fat diet and STZ-induced microbiota dysbiosis were involved in diabetic dry eye through the gut-eye axis.

**Keywords:** Diabetic dry eye, Gut-eye axis, Gut flora, Probiotics, Prebiotics



## 2<sup>nd</sup> Edition of International Summit on **Diabetes, Endocrinology and Metabolic Disorders** **July 21-22, 2026 | Vienna, Austria**

### **Biography**

Jianfeng Long is a Clinical Dietitian at Department of Clinical Nutrition, in the Second Xiangya Hospital of Central South University, Changsha, China. With over 13 years of experience in clinical nutrition practice, I have amassed extensive hands-on expertise, particularly in the prevention and management of chronic diseases as well as weight management. From 2017 to 2018, I completed a nearly 18-month visiting scholar program at the Center for Human Nutrition, University of California, Los Angeles (UCLA). With expertise in Research on the Role of Dietary Fiber and Gut Microbiota in the Prevention and Management of Chronic Diseases and weight management, they have contributed significantly to publish academic papers in a number of high-impact journals, including The Ocular Surface, Journal of Functional Foods and Food & Function. Their research interests include the Prevention and Management of Diabetes, Its Complications, and Obesity. I aspire to achieve further advances in research, translate these findings into clinical practice for patients, and ultimately contribute to patient care.

## 2<sup>nd</sup> Edition of International Summit on **Diabetes, Endocrinology and Metabolic Disorders** July 21-22, 2026 | Vienna, Austria



### **Alper Erkin**

*Associate Professor, Department of Cardiovascular Surgery, Kocaeli Academy Hospital, Kocaeli Turkey; Managing Director of Wound Clinic of Kocaeli Academy Hospital; Founder of Wound Clinic of University of Sakarya*

#### **Reusable Fiberglass and Polyester Combined Total Contact Cast System for Treatment of Plantar Diabetic Foot Ulcers: Efficacy and Cost-Effectiveness**

Diabetic foot ulcers (DFUs) remain a major cause of morbidity, healthcare expenditure, and amputation risk worldwide. Off-loading through total contact casting (TCC) is considered the gold standard, yet conventional systems are often limited by cost, patient adherence, and logistical challenges. This study evaluated the efficacy and cost-effectiveness of a reusable fiberglass and polyester combined TCC system in the treatment of plantar DFUs. A retrospective review of 70 patients treated between January 2020 and September 2022 demonstrated that 53 patients (75.7%) achieved complete wound closure, while 17 did not heal; among these, 9 required minor amputations and 1 underwent major amputation. Healing rates were consistent across ulcer locations, and outcomes were comparable to traditional TCCs, while offering significant economic advantages. These findings align with recent advances in DFU care, including regenerative medicine approaches, bioengineered tissue allografts, and emerging smart off-loading devices, which collectively aim to enhance healing potential and reduce recurrence. Current literature emphasizes the importance of integrating pressure redistribution, infection control, and patient-centered adherence strategies to optimize outcomes. In this context, the reusable hybrid TCC system represents a practical innovation bridging efficacy with affordability, particularly relevant for resource-constrained settings. Future research should focus on hybrid designs that improve patient comfort and adherence, while exploring synergies with novel adjunctive therapies. In conclusion, reusable fiberglass-polyester TCCs provide a cost-effective, clinically effective solution for DFU management, contributing to the evolving landscape of wound care innovation.

#### **Biography**

Dr. Alper Erkin is an Associate Professor of Cardiovascular Surgery at Kocaeli Academy Hospital and Managing Director of its Wound Clinic. He specializes in chronic wound management, diabetic foot care, vascular interventions, and regenerative therapies. With extensive experience in surgical off-loading, endovenous and endoarterial procedures, he has contributed to national and international congresses as an invited speaker. His research focuses on cost-effective wound care innovations, perfusion assessment, and integration of traditional and modern approaches. Dr. Erkin is dedicated to advancing patient-centered strategies and fostering interdisciplinary collaboration in vascular and wound management.

## 2<sup>nd</sup> Edition of International Summit on Diabetes, Endocrinology and Metabolic Disorders July 21-22, 2026 | Vienna, Austria



**Pierre Hardy, Rui Wang**

*Houda Tahiri/University of Montreal/Departments of Pediatric, Pharmacology & Physiology,  
Research Center of CHU Ste-Justine/Montreal/Quebec/Canada*

### **miRNA-driven downregulation of cholesterol biosynthesis through SREBP2 inhibition suppresses uveal melanoma metastasis**

Uveal melanoma (UM) is the most common primary intraocular malignant tumor in adults, and metastatic dissemination remains the predominant cause of mortality. Despite advances in cancer therapeutics, effective treatments for metastatic UM remain scarce, underscoring the need to identify novel biological drivers and therapeutic targets. Emerging studies suggest a link between cholesterol metabolism and tumor progression, yet the functional relevance of cholesterol regulation in UM metastasis has not been fully elucidated. We investigated the role of miRNA in regulating UM metastatic behavior using multiple UM cell lines and a suprachoroidal injection mouse model. Functional assays demonstrated that miRNA markedly suppresses cell migration, invasion, and cancer stem-like cell (CSC) formation. Mechanistic analyses revealed that miRNA directly targets sterol regulatory element-binding protein 2 (SREBP2), a key transcriptional regulator of cholesterol biosynthesis. Downregulation of SREBP2 by miRNA resulted in significantly reduced intracellular cholesterol levels. This metabolic shift impaired epithelial-to-mesenchymal transition (EMT) and decreased the CSC population, thereby attenuating metastatic potential. Importantly, restoration of cholesterol levels or forced expression of SREBP2 effectively reversed the anti-metastatic effects of miRNA, confirming the essential role of the miRNA –SREBP2–cholesterol axis. Collectively, our findings identify miRNA as critical regulator of cholesterol metabolism in UM and highlight its potential as a therapeutic strategy for metastatic UM.

**Keywords:** uveal melanoma, metastasis, cholesterol, SREBP2, lipid metabolism

#### **Biography**

Dr. Hardy is a professor and researcher in pediatrics (neonatal), pharmacology, and physiology at the University of Montreal, Canada. He directs the Translational Medicine Research Laboratory at the Sainte-Justine University Hospital Research Centre. He earned a PhD in pharmacology and physiology from the University of Montreal and completed postdoctoral studies at the Institute of Medicine and Engineering at the University of Pennsylvania, USA. His main research areas focus on translational research aimed at developing new anti-angiogenic and antitumor treatments and understanding their mechanisms of action. He is the author of over 150 peer-reviewed publications, book chapters and holds several patents.

## 2<sup>nd</sup> Edition of International Summit on **Diabetes, Endocrinology and Metabolic Disorders** July 21-22, 2026 | Vienna, Austria



**Joseph Proietto**

*University of Melbourne, Melbourne Australia*

### **Our Biology Working Against Us if We Want to Lose Weight**

It has been known for many years that most people who lose weight regain it. The reason for this is that the body defends weight very vigorously. The way it does this is by making the individual more hungry after weight loss, a hunger that persists for the rest of the individual's life. How does the body do that? We all have 10 hormones in the blood that can influence hunger. Six are made and released by the gut, 3 from the pancreas and 1 from fat. The gut hormones are Ghrelin (which stimulates hunger), CCK, PYY, GLP-1, Oxyntomodulin and Uroguanilin. The pancreatic hormones are Amylin, Insulin and pancreatic polypeptide. Fat cells make Leptin (all of which inhibit hunger). After only 4-5 Kg weight loss, Ghrelin levels increase in the blood and all of the hunger suppressing hormones decrease making the individual more hungry. These changes are persistent. We got evidence up to 3 years and a study from America showed that leptin was still lower 6 years after weight loss. In addition to increased hunger, the other thing that encourages weight regain is a reduction in energy expenditure by 300 calories/day which is not a reduction in metabolism but spontaneous activity. This defence in body weight is further proof that all of Obesity is genetic or epigenetic.

**Keywords:** writing, template, sixth, edition, self-discipline, good

### **Biography**

Joe Proietto was a Professor of Medicine, in the Department of Medicine Austin Health, University of Melbourne. He is a past President of the Australian and New Zealand Society Obesity Society (ANZOS) and was the Chair of the Program Organising Committee for the 10<sup>th</sup> International Congress of Obesity Sydney. He has been on the Council of the Australian Diabetes Society and has served on the Board of Diabetes Australia acting as chairman of its Medical Educational and Scientific Council. He was Chairman of the National Association of Diabetes Centres. He has published over 170 papers.

## 2<sup>nd</sup> Edition of International Summit on **Diabetes, Endocrinology and Metabolic Disorders** July 21-22, 2026 | Vienna, Austria



**Sonia Saad**

*Kolling Institute of Medical Research, University of Sydney, Camperdown, Australia*

### **Epigenetic regulation in obesity-related kidney disease**

Chronic kidney disease (CKD) is a major health burden largely driven by obesity and diabetes. 30-40% of patients with diabetes develop CKD due to unknown reason. Metabolic perturbations in the intrauterine environment also predispose offspring to CKD. In this study, we aimed to i) determine whether epigenetic regulation, specifically DNA methylation is responsible for CKD development and ii) whether modification of DNA methylation can reduce CKD due to obesity or maternal obesity. We completed a longitudinal study using a high fat-fed animal model, we previously demonstrated to induce features of type-2 diabetes by 9 weeks (adolescence) and significant renal structural damage and albuminuria in 30-40% of the animals by 32 weeks (adulthood), reflecting human epidemiology. Blood was collected at 9 and 32 weeks and DNA methylation was determined in animals with progressive and non-progressive CKD using RRBS. Kidney pathology was assessed at 32 weeks. Biometric and metabolic parameters, gene methylation profile in the kidneys and markers of renal function and pathology including oxidative stress, inflammation and fibrosis were determined. The role of epigenetic modulators to limit obesity and maternal obesity-related CKD was examined.

**Keywords:** Obesity, Kiney disease, epigenetic, biomarkers.

### **Biography**

Associate Professor Saad's research interest is in metabolic and kidney disease. She has been studying the mechanisms of chronic kidney disease (CKD) development and progression for over 20 years. She published over 130 peer reviewed manuscripts in the research area. Her research program employs different strategies to investigate the origin of CKD, the mechanisms of its development and novel preventative measures/therapies for CKD. She has expertise in maternal programming and biomarkers studies and is currently developing novel non-invasive diagnostic methods to identify early kidney pathology as well as patients with progressive disease. She has multiple leadership roles and scientific boards.

## 2<sup>nd</sup> Edition of International Summit on Diabetes, Endocrinology and Metabolic Disorders July 21-22, 2026 | Vienna, Austria



### Timothy Alexander Welborn

*Department of Medicine, University of Western Australia, Nedlands WA, Australia*

*Department of Endocrinology, Sir Charles Gairdner Hospital, Nedlands WA, Australia*

#### The hypothyroidism conundrum in thought bubbles

Hypothyroidism is common and affects one in seven patients over the age of 50. The standard treatment is thyroxine (T4) therapy which restores health to the majority of patients. But a subgroup, estimated variably to be 5% to 20% of all hypothyroid patients, continue to experience distressing symptoms despite having normal T4 and TSH levels. These cases represent the conundrum of hypothyroidism.

Some of these patients show delayed relaxation of tendon reflexes, a positive Woltman's sign as usually seen in florid hypothyroidism. They will respond dramatically to combination therapy, that is the addition of low-dose triiodothyronine (T3). These patients should be categorised as having 'T3-hypothyroidism'.

Another subset of dissatisfied hypothyroid patients shows predominantly autoimmune symptoms. These include fatigue, reduced quality of life, cognitive difficulties or 'brain fog', depression and anxiety, generalized aches and muscle pain. They have elevated anti-TPO antibodies and they will respond to total thyroidectomy. The non-surgical treatment of this set of patients requires urgent research. They could be called patients with 'anti-TPO-toxic hypothyroidism'.

By exclusion, the third group has symptoms of psychogenic or psychosomatic origins. These patients require support, counseling, and even cognitive behavioural therapy. They could be identified as having 'hypothyroidism-in-denial'.

Future guidelines must include recognition of these subgroups. Importantly, it is time for clinicians to resume testing reflexes in their hypothyroid patients.

#### Biography

Prof. Timothy Alexander Welborn AO is a renowned Australian endocrinologist with extensive expertise in diabetes, obesity, metabolism, and cardiovascular risk. He is Clinical Professor of Medicine at The University of Western Australia and Emeritus Consultant Endocrinologist at Sir Charles Gairdner Hospital. Throughout his distinguished career, he has made significant contributions to diabetes research and public health through major epidemiological studies, including the Busselton Health Study and the Australian Diabetes, Obesity and Lifestyle Study (AusDiab). A former President of the Australian Diabetes Society, Prof. Welborn was appointed an Officer of the Order of Australia (AO) in recognition of his outstanding contributions to medicine, diabetes research, and healthcare in Australia.

## 2<sup>nd</sup> Edition of International Summit on Diabetes, Endocrinology and Metabolic Disorders July 21-22, 2026 | Vienna, Austria



**Shohei Katsuya<sup>1</sup>, Yoshikazu Kawata<sup>1</sup>, Jun Kawamura<sup>2</sup>, Tsuyoshi Goto<sup>3</sup>, Tsuyoshi Takara<sup>4</sup> and Jun Tsubota<sup>1</sup>,**

*1 Osaka Gas Co., Ltd., Osaka, Japan*

*2 Frontier Materials Laboratories, Osaka Gas Chemicals Co., Ltd*

*3 Division of Food Science and Biotechnology, Graduate School of Agriculture, Kyoto University*

*4 Medical Corporation Seishinkai, Takara Clinic*

### **Effect of D- $\beta$ -Hydroxybutyric Acid on Body Fat in Japanese Adults: A Randomized, Double-Blind, Placebo-Controlled Study**

Ketone metabolism is currently being spotlighted for its health benefits. Strict dietary carbohydrate restriction is required to increase plasma ketone levels, which can be achieved with D- $\beta$ -hydroxybutyric acid (D-BHB) supplementation as well. Although 2.9 g/day of D-BHB may reduce body fat without dieting or exercise interventions, the lower effective intake limit of exogenous D-BHB remains unknown. In this randomized, double-blind, placebo-controlled study (UMIN000054231), we aimed to assess the safety and fat-reduction effects of a 12-week intake of D-BHB in healthy Japanese adults (low-dose [1.5 g/day, n = 33], normal-dose [2.9 g/day, n = 33], and placebo [n = 34] groups). Blood samples were collected pre- and post-intervention. Participants' blood chemistry, anthropometric, and body composition parameters were investigated. The low-dose group had a lower visceral fat area and body mass index (BMI) and higher plasma ketone levels than the placebo group. The normal-dose group had a significantly lower visceral fat area than the placebo group. Significant between-group (normal-dose vs. placebo) differences were observed in body weight, BMI, body fat percentage, fat mass, and plasma ketone levels. Participants reported no D-BHB-related adverse effects or discomfort. In conclusion, 1.5 or 2.9 g/day of D-BHB may reduce body fat without dieting or exercise interventions.

**Keywords:** D- $\beta$ -hydroxybutyric acid, ketogenic diet, ketone body, obesity, overweight

#### **Biography**

Shohei Katsuya is a researcher specializing in fermentation production technology and physiological functions of beta-hydroxybutyrate (BHB). Since 2021, he has been engaged in research and development using Halomonas bacteria to produce BHB through fermentation. His work focuses on advancing sustainable production methods and understanding the health benefits of BHB. Shohei holds a master's degree in agriculture and is dedicated to contributing to metabolic health research. He actively participates in scientific discussions and aims to promote innovative solutions in biotechnology and nutrition.

## 2<sup>nd</sup> Edition of International Summit on **Diabetes, Endocrinology and Metabolic Disorders** July 21-22, 2026 | Vienna, Austria



**Yi Luo**

*Department of Endocrinology, Bishan Hospital of Chongqing Medical University, Chongqing, 402760, China*

### **Renin-independent aldosteronism and chronic kidney disease in diabetes: Observational and Mendelian randomization analyses**

#### **Background**

Renin-independent aldosteronism (RIA) describes the spectrum of autonomous aldosterone secretion from mild to overt. We aimed to explore whether RIA is causally associated with chronic kidney disease (CKD) in patients with diabetes.

#### **Methods**

We cross-sectionally included 1027, 402 and 39,709 patients with any type of diabetes from cohorts of EIMDS, CONPASS and UK Biobank, respectively. In EIMDS, we defined RIA and renin-dependent aldosteronism based on plasma aldosterone and renin concentrations. We performed captopril challenge test to confirm renin-dependent or independent aldosteronism in CONPASS. In UK Biobank, we generated genetic instruments for RIA based on the genome-wide association studies (GWAS). We extracted the corresponding single nucleotide polymorphisms (SNPs) information from the GWAS data of CKD in diabetes. We harmonized the SNP-RIA and SNP-CKD data to conduct the two-sample Mendelian randomization analyses.

#### **Findings**

In EIMDS and CONPASS, when compared to subjects with normal aldosterone concentration or renin-dependent aldosteronism, participants with RIA had a lower estimated glomerular filtration rate, a higher prevalence of CKD, and a higher multivariate-adjusted odds ratio (OR) of CKD (OR 2.62 [95%CI 1.09–6.32] in EIMDS, and 4.31 [1.39–13.35] in CONPASS). The two-sample Mendelian randomization analysis indicated that RIA was significantly associated with a higher risk of CKD (inverse variance weighted OR 1.10 [95 % CI 1.05–1.14]), with no evidence of significant heterogeneity or substantial directional pleiotropy.

#### **Interpretation**

Among patients with diabetes, renin-independent aldosteronism is causally associated with a higher risk of CKD. Targeted treatment of autonomous aldosterone secretion may benefit renal function in diabetes.



## 2<sup>nd</sup> Edition of International Summit on Diabetes, Endocrinology and Metabolic Disorders July 21-22, 2026 | Vienna, Austria

**Key words:** Renin-independent Aldosteronism, Diabetes, Chronic kidney disease, Mendelian randomization, Causal relationship

### **Biography**

Yi Luo is a researcher in the Department of Endocrinology, Bishan Hospital of Chongqing Medical University, China. She has contributed to published research in the field of endocrinology, with a focus on diabetes and glucose metabolism.

## 2<sup>nd</sup> Edition of International Summit on Diabetes, Endocrinology and Metabolic Disorders July 21-22, 2026 | Vienna, Austria



**Rengfei SHI**

*School of Exercise and Health, Shanghai University of Sport, Shanghai 200438, China*

### **Muscle-derived Estrogen: metabolism, mechanisms, and exercise-induced changes**

With the global increase in aging populations, the decline in skeletal muscle mass and function, along with associated metabolic disorders, has emerged as a pressing health concern. In women, the menopausal transition exacerbates this issue due to declining circulating estrogen levels. However, recent research has demonstrated that skeletal muscle tissue possesses the requisite steroidogenic enzymes to produce estrogen locally. This "myogenic estrogen" acts in an autocrine or paracrine manner to directly modulate muscle physiology and metabolism, independent of ovarian hormone production. Exercise is widely recognized as an effective non-pharmacological strategy for preserving muscle health. Accumulating evidence suggests that its beneficial effects may be partially mediated through the modulation of this local hormonal system. Specifically, physical activity appears to upregulate the expression of estrogen precursors and key steroidogenic enzymes within skeletal muscle, thereby enhancing local estrogen synthesis. By promoting myogenic estrogen production, exercise may offer a targeted mechanism to improve muscle function and metabolic outcomes. This review synthesizes recent findings to detail the relationship between exercise and the synthesis and metabolism of myogenic estrogen. We first examine the expression and functional roles of estrogen receptors in skeletal muscle, followed by a discussion of the biosynthetic pathway and metabolic fate of locally derived estrogen. We then explore the physiological roles of myogenic estrogen in regulating muscle function and metabolism. Finally, we discuss the mechanisms by which exercise influences estrogen synthesis within skeletal muscle, thereby providing a theoretical framework and experimental basis for understanding how physical activity optimizes female muscle health through local estrogen regulation.

**Keywords:** Estrogen · Skeletal muscle · Exercise · Aromatase · Postmenopausal females

### **Biography**

Professor at Shanghai University of Sport, Ph.D., Doctoral Supervisor. Registered Dietitian of the Chinese Nutrition Society, Standing Committee Member of the Special Nutrition Branch of the Chinese Nutrition Society. Currently principal investigator of three projects funded by the National Natural Science Foundation of China. Authored or co-authored over 70 research papers, and served as editor-in-chief or contributing editor for 10 textbooks and monographs. Main research areas and interests: Exercise and health management, sports nutrition, cellular and molecular mechanisms of exercise and skeletal muscle adaptation, sarcopenia in the elderly and exercise/nutrition interventions.

## 2<sup>nd</sup> Edition of International Summit on **Diabetes, Endocrinology and Metabolic Disorders** July 21-22, 2026 | Vienna, Austria



**Zhen Wang**

*Department of Cardiology, The Second Affiliated Hospital of Anhui Medical University, Hefei, China*

### **Elevated Frontal QRS-T Angle as a Predictor of Cardiovascular Risk in Graves' Disease: A Comparative Study**

#### **Background**

Graves' disease (GD) is a common cause of hyperthyroidism and is frequently complicated by cardiovascular dysfunction. However, reliable, non-invasive markers for early cardiovascular risk stratification in GD remain limited. The frontal QRS-T (fQRS-T) angle, an electrocardiographic marker reflecting ventricular depolarization-repolarization heterogeneity, has shown prognostic value in various cardiovascular conditions, but its significance in GD has not been fully elucidated.

#### **Methods**

We retrospectively analyzed electrocardiographic and clinical data from 291 patients with Graves' disease and 96 healthy controls. GD patients were further stratified according to the presence of hyperthyroid heart disease. Multivariate logistic regression was used to identify independent predictors of hyperthyroid heart disease. In addition, a retrospective cohort study was conducted in 203 GD patients with complete 5-year follow-up, comparing outcomes between patients with an fQRS-T angle  $\geq 90^\circ$  and those with a normal angle. Primary outcomes included all-cause mortality or ventricular fibrillation, while secondary outcomes focused on first hospitalization for heart failure.

#### **Results**

An fQRS-T angle  $\geq 90^\circ$  was significantly more prevalent in GD patients than in healthy controls and was particularly common among those with hyperthyroid heart disease (all  $p < 0.001$ ). Multivariate analysis identified age, fQRS-T angle, thyroxine (T<sub>4</sub>), and platelet count as independent predictors of hyperthyroid heart disease. During follow-up, patients with an fQRS-T angle  $\geq 90^\circ$  showed a significantly higher risk of first hospitalization for heart failure (HR 5.04, 95% CI 2.59–9.81).

#### **Conclusions**

An increased frontal QRS-T angle is associated with elevated cardiovascular risk in patients with Graves' disease. This readily available ECG marker may serve as a useful, hypothesis-generating tool for cardiovascular risk stratification in hyperthyroid populations.



## 2<sup>nd</sup> Edition of International Summit on **Diabetes, Endocrinology and Metabolic Disorders** July 21-22, 2026 | Vienna, Austria

**Keywords:** Graves' disease; Hyperthyroidism; Frontal QRS-T angle; Electrocardiography; Cardiovascular risk; Hyperthyroid heart disease

### **Biography**

Mr. Zhen Wang is a cardiologist in the Department of Cardiology at the Second Affiliated Hospital of Anhui Medical University, China. His research interests include cardiovascular manifestations of endocrine disorders, electrocardiographic risk markers, and heart failure. He has published peer-reviewed articles in international journals and is actively involved in academic exchanges in the field of cardiometabolic medicine.

## 2<sup>nd</sup> Edition of International Summit on **Diabetes, Endocrinology and Metabolic Disorders** July 21-22, 2026 | Vienna, Austria



### **Ahmed A. Damanhory**

*Department of Biochemistry, General Medicine Practice Program, Batterjee Medical College,  
Jeddah 21442, Saudi Arabia*

**Co-Author's Name:** Hader I. Sakr, Department of Medical Physiology, General Medicine Practice Program, Batterjee Medical College, Jeddah 21442, Saudi Arabia

#### **Echinochrome guarding effect against sodium arsenite-induced hepatorenal toxicity in rats**

The persistent and accumulative qualities of the poisonous metalloid arsenic make it a ubiquitous environmental threat. Echinochrome (Ech) is a natural product that possesses antioxidative, antiviral, antialgal, anti-allergic, and antibacterial effects. The aim of this work investigates the beneficial impact of Ech on sodium arsenite-induced hepatorenal toxicity in rats. Eighteen male rats dispersed equally among three groups: control, sodium arsenate (AS), and AS + Ech. Rats were administered AS (10 mg/kg) and Ech (1 mg/kg BW) by gavage for the experimental duration of 30 days. Ech inhibits oxidative stress by improving antioxidant levels, including glutathion, catalase, and glutathione-S-transferase, with a concomitant decrease in the amounts of malondialdehyde, and nitric oxide in kidney and liver tissues. Moreover, it reduced blood concentrations of aspartate aminotransferase, alanine aminotransferase, gamma-glutamyltransferase, alkaline phosphatase, serum urea, uric acid, and creatinine. Concurrently, Ech resulted in a substantial increase in albumin and total protein levels. Additionally, Ech inhibits inflammation by reducing serum concentrations of tumor necrosis factor- $\alpha$ , cyclooxygenase 2, and prostaglandin E2. In conclusion, Ech mitigates arsenic-induced hepatorenal damage by inhibiting oxidative stress and inflammatory pathways.

**Keywords:** Echinochrome, Sodium Arsenate, Hepatorenal Toxicity, Oxidative Stress, Anti-inflammatory, Antioxidants

#### **Biography**

Dr. Ahmed Abd El Ghany Damanhory, Assistant Professor and Head of the Biochemistry Department at Batterjee Medical College, Saudi Arabia. MD holder in Medical Biochemistry from Al-Azhar University, Egypt. With over two decades of academic experience, I lead the design and delivery of preclinical medical biochemistry curricula across multiple healthcare programs. An active researcher, my scholarly work focuses on metabolic disorders, advanced biotechnology, and translational medicine, with numerous peer-reviewed publications in high-impact indexed journals.

## 2<sup>nd</sup> Edition of International Summit on **Diabetes, Endocrinology and Metabolic Disorders** July 21-22, 2026 | Vienna, Austria



### **Ludwig Schaaf**

*Senior Consultant, Department of Endocrinology, Diabetology and Angiology, München Klinik Schwabing, Munich, Germany; Max Planck Institute of Psychiatry, Munich, Germany.*

#### **Autoimmune diseases in type 1 diabetes: Often overlooked?**

It is frequently observed that type 1 diabetes mellitus, but also type 2 diabetes, can occur in combination with various other conditions, including endocrine disorders. Vascular diseases, autonomic neuropathies, or metabolic imbalances may lead to changes in endocrine function [1].

According to a 2019 study [2], patients with T1D have an increased risk of other autoimmune diseases, such as thyroid diseases and celiac disease, which may occur as comorbid conditions. Shared genetic factors and dysregulated immune mechanisms explain the coexistence of these autoimmune conditions.

The most common autoimmune thyroid disorders are Hashimoto's thyroiditis (hypothyroidism) and Graves' disease (hyperthyroidism). These chronic inflammatory thyroid disorders are caused by dysregulation of the specific immune response involving B and T lymphocytes. In Hashimoto's thyroiditis, anti-thyroid peroxidase antibodies and anti-thyroglobulin antibodies can typically be detected, while Graves' disease is associated with TSH receptor antibodies.

According to [1], certain autoimmune diseases tend to occur more frequently in women with type 1 diabetes. These include autoimmune thyroid disorders such as Graves' hyperthyroidism but also hypothyroidism caused by autoimmune thyroiditis.

Table 1 lists selected endocrine autoimmune diseases that may occur in combination with type 1 diabetes.

## 2<sup>nd</sup> Edition of International Summit on Diabetes, Endocrinology and Metabolic Disorders

### July 21-22, 2026 | Vienna, Austria

Table 1: Endocrine autoimmune diseases in combination with type 1 diabetes

| Disease                                               | Incidence                                                | Female/Male Ratio                                                       | Association with T1D                                                                                      |
|-------------------------------------------------------|----------------------------------------------------------|-------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| <b>Hashimoto's thyroiditis (HT)</b>                   | Estimated at 3–6 cases per 10,000/year (2020) [3]        | Occurs nine times more often in women, especially ages 30–50 [3]        | HT is 3–5 times more common in T1D patients than in individuals without other immunological disorders [1] |
| <b>Graves' disease (GD)</b>                           | About 20 cases per 100,000/year in Western countries [4] | Five- to tenfold higher incidence in women; peak between ages 50–60 [1] | Up to 57% of untreated GD patients exhibit impaired glucose tolerance; 2–3.3% have diabetes [1]           |
| <b>Autoimmune adrenalitis (Addison's disease; AD)</b> | Approx. 4–6 cases per 1 million/year in Europe [5]       | Slightly more common in women (OR 1.2) [5]                              | 12% of women with AD also developed T1D [5]                                                               |
| <b>Autoimmune parathyroiditis (AP)</b>                | Prevalence approx. 1:80,000 [6]                          | No significant sex differences in calcium or PTH levels [7]             | 80–85% of patients with polyglandular autoimmune syndrome develop both T1D and AP [8]                     |

Other autoimmune diseases that may occur in combination with T1D are listed in Table 2 and briefly summarized below.

**Hypophysitis:** According to [9], the true annual incidence is difficult to determine, with older estimates suggesting 1 in 9 million. Improved diagnostics and imaging have increased the reported incidence.

**Autoimmune hepatitis (AIH):** AIH is an inflammatory liver disease caused by a T-cell-mediated immune reaction against hepatic antigens [10]. Women are affected four times more often than men. AIH often progresses chronically and may lead to fibrosis and cirrhosis if untreated. AIH is more common in people with T1D and may require more intensive diabetes management [11].

**Chronic atrophic gastritis (CAG):** CAG is considered a precursor of gastric cancer. It is linked to antibodies against parietal cells. Due to often asymptomatic progression, incidence data are limited. In patients without prior *H. pylori* infection, incidence is low [12].

2<sup>nd</sup> Edition of International Summit on

# Diabetes, Endocrinology and Metabolic Disorders

July 21-22, 2026 | Vienna, Austria

**Gluten-sensitive enteropathy (Celiac disease):** Celiac disease is an autoimmune disorder characterized by antibodies against transglutaminase. Untreated cases increase morbidity and mortality [13]. In Germany, the prevalence among children and adolescents was 0.9% in a 2003 study. Women have a higher risk of undiagnosed celiac disease than men.

**Secondary vasculitis:** Secondary vasculitis may be triggered by autoimmune diseases, infections, or medications [14]. Rheumatoid vasculitis may occur in combination with T1D (author's note).

Table 2: Other autoimmune diseases associated with T1D

| Disease                    | Incidence/Prevalence                                   | Female/Male Ratio                                                  | Association with T1D                                  |
|----------------------------|--------------------------------------------------------|--------------------------------------------------------------------|-------------------------------------------------------|
| Hypophysitis               | Estimated 1 case per 9 million/year (2005) [9]         | IgG4-related form more common in men (2:1) [15]                    | No established data                                   |
| Autoimmune hepatitis (AIH) | 0.2–1.2 new cases per 100,000/year [11]                | 4:1 (peak 10–30 years) [10]                                        | Prevalence higher in T1D patients (44.8/100,000) [11] |
| Atrophic gastritis (CAG)   | Incidence up to 11%/year; <1% without H. pylori [16]   | Increases with age (0.5% at 50–54 years; 2.1% at 70–74 years) [13] | Found in 4.3% of T1D patients [2]                     |
| Celiac disease             | Prevalence approx. 0.9% among children in Germany [13] | Higher risk in women [17]                                          | Prevalence 4.5% in T1D patients [2]                   |

Polyglandular autoimmunity refers to the special case in which multiple hormone glands are affected by a disease caused by the formation of antibodies directed against the body's own tissues. This is therefore classified as an autoimmune disease. There are several types of polyglandular, also known as pluriglandular, autoimmunity.

2<sup>nd</sup> Edition of International Summit on

# Diabetes, Endocrinology and Metabolic Disorders

July 21-22, 2026 | Vienna, Austria

**Autoimmune Polyendocrine Syndrome (APS):** Autoimmune polyendocrine syndrome, abbreviated as APS, refers to a group of autoimmune diseases that often occur simultaneously and primarily affect endocrine glands, but can also involve other tissues, as described in source [18]. According to source [19], APS type 1 is extremely rare (1 case per 100,000 individuals) and is caused by a monogenic mutation. Clinically, it usually appears in childhood with a typical sequential onset of mucocutaneous candidiasis, hypoparathyroidism, and Addison's disease.

APS is defined by the impairment of at least two endocrine organs due to autoimmune reactions, and several years may pass between the appearance of individual symptoms [19].

**Classification of APS types:** According to source [18], different classifications of APS types are described in the literature (see Table 3). Most commonly, two main types are distinguished, although some research groups further divide APS type 2 into types 3 and 4. While type 1 is monogenetically inherited and occurs more frequently in children, type 2 (including types 3 and 4) represents a syndrome with familial clustering in adults.

**Table 3: (modified from [19]): Forms of Polyglandular Autoimmune Syndromes:**

AIE = Autoimmune Endocrinopathy

APECED = Autoimmune Polyendocrinopathy-Candidiasis-Ectodermal Dystrophy Syndrome

| APS Type                    | Definition                                                            | Incidence | Sex Distribution | Association with T1D |
|-----------------------------|-----------------------------------------------------------------------|-----------|------------------|----------------------|
| Type 1 (juvenile APS)       | APECED syndrome                                                       | 1:100.000 | 4:3              | < 20 %               |
| Type 2 (adult APS)          | Addison's disease + autoimmune endocrinopathy                         | 1:20.000  | 3:1              | 50–60 %              |
| Type 3 (adult APS)          | Autoimmune endocrinopathy + autoimmune thyroid disease (no Addison's) |           |                  |                      |
| Type 4 (adult APS)          | Any combination of $\geq 2$ autoimmune endocrinopathies (not APS 1–3) |           |                  |                      |
| * Synonym: Schmidt syndrome |                                                                       |           |                  |                      |

## 2<sup>nd</sup> Edition of International Summit on **Diabetes, Endocrinology and Metabolic Disorders** **July 21-22, 2026 | Vienna, Austria**

Regular follow-up examinations are recommended for all patients at risk for APS 1 [19]. Since some disease components can progress rapidly during acute clinical episodes, clinical evaluations should be performed at least every six months. If autoantibodies are detected, additional functional tests—such as an ACTH stimulation test—should be conducted as needed.

APS typically develops sequentially, with type 1 diabetes usually appearing first. Studies have shown that over 50% of individuals with type 1 diabetes have additional pathological autoantibody titers, and 31% develop at least one other treatable autoimmune endocrinopathy [19]. The most common condition to develop after diabetes is autoimmune thyroid disease, with a prevalence of 3.6% within one year, making it the most frequent form of APS in adults.

### **Conclusion for Clinical Practice**

Due to the comorbidities of autoimmune diseases and type 1 diabetes (T1D), autoantibody screening is recommended at initial diagnosis—particularly Anti-TPO antibodies, TRAb, adrenal antibodies, transglutaminase antibodies, and parietal cell antibodies. If additional symptoms arise, such as joint pain, gastrointestinal complaints, etc., other autoimmune diseases should also be considered, and appropriate diagnostic tests should be initiated.

Because diabetes mellitus and thyroid dysfunctions often occur together (either simultaneously or at different times), thyroid function should be checked regularly—at least once per year—as well as in cases of unexplained deterioration of metabolic control. This ensures timely and appropriate treatment to help stabilize metabolic processes.

**Keywords:** Hypoparathyroidism – Addison’s disease – Graves’ disease – Hashimoto’s disease – Rheumatoid arthritis – Autoantibodies – Autoimmune disease – Type 1 diabetes mellitus (T1D) – APS

### **References:**

- [1] Schumm-Draeger, P. M. 2016: Schilddrüse und Diabetes: Interaktion wird unterschätzt. Dtsch Arztebl 2016; 113(43)
- [2] Nederstigt et al. 2019: Associated auto-immune disease in type 1 diabetes patients: a systematic review and meta-analysis. European Journal of Endocrinology (2019) 180, 135–144
- [3] DocCheck-Flexikon zum Thema „Hashimoto-Thyreoiditis“, recherchiert am 12.08.2025:
- [4] Antonelli et al. 2020: Graves’ disease: Epidemiology, genetic and environmental risk factors and viruses, Best Practice & Research Clinical Endocrinology & Metabolism 34 (2020) 101387
- [5] Gesine Meyer et al. (2014). Increasing prevalence of Addison’s disease in German females: health insurance data 2008–2012. European Journal of Endocrinology (2014) 170, 367–373
- [6] Husebye et al. (2018). Autoimmune Polyendocrine Syndromes. N Engl J Med. March 22, 2018; 378(12): 1132–1141
- [7] Weber et al. (2020). Symptoms of Primary Hyperparathyroidism in Men and Women: The Same but Different? Visc Med 2020; 36:41–46
- [8] Hansen et al. (2015). Type 1 diabetes and polyglandular autoimmune syndrome: An overview. World J Diabetes 2015; 6(1): 67–79
- [9] Langlois et al. (2022). Hypophysitis, the Growing Spectrum of a Rare Pituitary Disease. The Journal of Clinical Endocrinology & Metabolism, 2022, Vol. 107, No. 1, 10–28
- [10] Link (Amboss Homepage): Autoimmune Hepatitis, accessed on August 14, 2025



## 2<sup>nd</sup> Edition of International Summit on **Diabetes, Endocrinology and Metabolic Disorders** **July 21-22, 2026 | Vienna, Austria**

- [11] De Sousa et al. (2018). Diabetes Mellitus and Autoimmune Hepatitis: Demographical and Clinical Description of a Relatively Rare Phenotype. *Horm Metab Res* 2018; 50(07): 568–574
- [12] Adamu et al. (2011). Incidence of chronic atrophic gastritis: systematic review and meta-analysis of follow-up studies. *Eur J Epidemiol* 25, 439–448 (2010)
- [13] Laass et al. (2015). Prevalence of celiac disease in children and adolescents in Germany. *Deutsches Ärzteblatt*, Vol. 112, Issue 33–34
- [14] DocCheck Flexikon, topic “Vasculitis,” accessed on August 12, 2025
- [15] Kluczynski et al. (2019). Hypophysitis – new insights into diagnosis and treatment. *Endokrynol Pol* 2019; 70(3): 260–269
- [16] Wolfgang Piper. *Internal Medicine*. Heidelberg 2007, pp. 406f.
- [17] Jansson-Knodell et al. (2019). Sex differences in celiac disease in undiagnosed populations: A systematic review and meta-analysis. *Clinical Gastroenterology and Hepatology* 2019; 17:1954–1968
- [18] DocCheck Flexikon, topic “Autoimmune Polyendocrine Syndrome,” accessed on August 11, 2025
- [19] Hansen et al. (2013). Autoimmune polyglandular syndromes. *Dtsch Med Wochenschr.* 2013; 138: 319–330

### **Biography**

Prof. Dr. med. Ludwig Schaaf is a specialist in Internal Medicine, Endocrinology, Diabetology, and Metabolic Medicine. He serves as Senior Consultant in the Department of Endocrinology, Diabetology and Angiology at München Klinik Schwabing, Munich, Germany, and is affiliated with the Max Planck Institute of Psychiatry, Munich. His clinical expertise includes diabetes mellitus, thyroid diseases, metabolic disorders, and endocrine diseases. Prof. Schaaf has authored numerous peer-reviewed scientific publications and has actively contributed to clinical research, medical education, and multidisciplinary patient care. He is recognized for his work in endocrinology and diabetology and continues to contribute to improving the diagnosis and management of endocrine and metabolic disorders.

## 2<sup>nd</sup> Edition of International Summit on **Diabetes, Endocrinology and Metabolic Disorders** July 21-22, 2026 | Vienna, Austria



**Evelyn Eisenstein; Cavalcanti, S.S; Bermudez, B;  
Cabus, L.A.M; Messina, L.A**

*Rio de Janeiro, Salvador, Curitiba, Brasilia, Brazil*

### **Telemedicine: a bridge over knowledge gaps in pediatric health care**

The Special Interest Group for Children & Adolescents health and medicine from the Brazilian Telemedicine University Network (SIG-RUTE) started its activities with videoconferences between the State University of Rio de Janeiro (FCM-UERJ) and the Federal University of Bahia (NUTES-UFBA) on May 8, 2008. With monthly or bi-monthly open, free and public activities, it completed a total of 170 sessions on December 2025: 123 (72%) videoconferences and more 47 (28%) webconferences, since April 2020. There are 50 institutions and university hospitals connected with the total of 614 invited speakers, with the interactive collaboration of 60% of university professor, 21% residents, 13% graduating students and 6 % of other and allied health professionals. The main goal is an update into pediatrics and the general health care of children and adolescents assistance through a one hour interactive and multidisciplinary debate between 40% medical professionals, 18% nursing, 6% psychology, 5% nutrition, 4% physical therapy, 3,5% speech therapy and 23,5% with interests in diverse areas like social service, public health and dentistry hospital services.

The main selected themes for updating, knowledge dissemination and capacity building can be classified into 4 major areas: 1- Growth, nutrition and comprehensive mental development during childhood and adolescence periods of life; 2- Emerging infectious diseases and vaccination schedules; 3- Digital health, and universal health rights including social protection aspects against violence; 4- Chronic, rare diseases and deficiencies with difficulties to access the intensive therapy units for hospitalization at distant cities and for the whole country.

During these 17 years of activities, there were partnerships and collaboration networks with representants of the Brazilian Ministry of Health, World Health Organization/Geneva, national institutions for rehabilitation/Rede Sarah and guest speakers from international networks of Portugal, Equador and Australia, and also from the Brazilian Pediatric Society/SBP. All sessions are recorded and the audiovisual materials accessible when requested by e-mail or direct phone contact. They are also available to be further shared at the RNP site and link: <https://eduplay.rnp.br/portal/playlist/57822>. It is estimated that a total of 8.200 participants are part of this digital network or they shared materials, protocols and publications. The vídeo champion is the Shaken Baby Syndrome (abusive head trauma) produced in English at the Children's Westmead Hospital in Australia and translated to Portuguese by our SIG medical team and posted on YouTube platform with more than 86 thousand visualizations.



## 2<sup>nd</sup> Edition of International Summit on **Diabetes, Endocrinology and Metabolic Disorders** **July 21-22, 2026 | Vienna, Austria**

The SIG-RUTE is a telemedicine cost-effective tool model for updating and knowledge dissemination, with the technical support of RNP, National Research and Education Network connected to the Brazilian Ministry of Sciences, Technology and Innovation, <https://www.rute.rnp.br>. During the 2008-2025 period, SIG-RUTE had a constructive, interactive, attractive and positive digital impact for medical and health professionals in general, and especially for the health and medical assistance of 65 million Brazilian children and adolescents.

### **Biography**

Prof. Evelyn Eisenstein, MD, PhD is a Brazilian pediatrician and adolescent medicine specialist. She obtained her M.D. from the Rio de Janeiro State University (UERJ), an M.Sc. in Endocrinology from UERJ, and a Ph.D. in Nutrition from the Federal University of São Paulo (UNIFESP). She is an Associate Professor (Retired) at UERJ and Director of the Center for Integrated Studies on Childhood, Adolescence and Health (CEIIAS). Her professional interests include adolescent medicine, pediatric endocrinology, telemedicine, digital health, child protection, violence prevention, and digital safety for children and adolescents. She has contributed extensively to medical education, public health initiatives, and national and international collaborations in adolescent health.

## 2<sup>nd</sup> Edition of International Summit on **Diabetes, Endocrinology and Metabolic Disorders** July 21-22, 2026 | Vienna, Austria



**Kedar N Prasad**

*Engage Global inc., USA*

### **Combination of a Micronutrient Mixture, Probiotics, Omega3, and Collagen Peptides may Prevent and Improve Treatment of Diabetes**

Diabetes mellitus is a progressive chronic disease associated with enhanced levels of fasting glucose, HbA1C, and insulin resistance. Despite valuable recommendations for improving diet and lifestyle, and avoiding environmental toxins, the incidence of diabetes type II continues to increase. Despite use of diabetic medications which do not address the causes of the disease, the disease continues to progress rather slowly, and complications such as retinopathy, nephropathy, peripheral neuropathy, and heart disease develop. External stressors such as poor diet and lifestyle, and excessive exposure to environmental toxins increase the risk of diabetes type II by increasing the levels of oxidative stress and chronic inflammation which damage the insulin receptors causing accumulation of glucose in the blood. Other internal stressors such as intestinal dysbiosis, dysfunctional omega 3, damaged insulin receptors, and increased activity of dipeptidyl peptidase-4 (DPP-4) that prevents the secretion of insulin from the pancreas to the blood, contribute to the development and progression of diabetes type II. Addressing one of these internal stressors at a time may not produce an optimal benefit. The proposed plan may prevent and in combination with drugs may improve their effectiveness of treatment in diabetes type II. This plan includes (a) adoption of current prevention guidelines, (b) supplementation with a micronutrient mixture which would simultaneously reduce oxidative stress and chronic inflammation (c) probiotics with prebiotics which would reverse the harmful effects of intestinal dysbiosis, (d) in patients with insulin resistance, omega-3-fatty acids directly activate AKT which signals glucose transporter-4 (GLUT-4) to migrate to the cell surface and allows entry of glucose inside the cells, and (e) collagen peptides which increase the secretion of insulin by inhibiting dipeptidyl peptidase-4 (DPP-4) activity.

**Keywords:** Diabetes, prevention, improved treatment, Natural products



## 2<sup>nd</sup> Edition of International Summit on **Diabetes, Endocrinology and Metabolic Disorders** **July 21-22, 2026 | Vienna, Austria**

### **Biography**

Dr. Prasad graduated from the University of Iowa, Post-doctoral training at the Brookhaven National laboratory, and joined the University of Colorado Medical School where he taught and researched funded by the NIH.

Discoveries: An elevation of cyclic AMP induced terminal differentiation in neuroblastoma cells in culture. Butyric acid and vitamin E succinate are potent anti-cancer agents.

Honors: In 1982, he was invited by the Nobel Prize Committee to nominate a candidate for the Nobel Prize in Medicine. In 2017, he was invited to become a member of the Royal Society of Medicine, London.

He published over 250 papers and authored or edited 33 books on radiobiology, neurodegenerative disease, and nutrition and cancer.

## 2<sup>nd</sup> Edition of International Summit on Diabetes, Endocrinology and Metabolic Disorders July 21-22, 2026 | Vienna, Austria



Yu Qiao 1,2, †, Shuangshuang Geng 1,2, †, Bin Zhang 1,2, Fanyu Meng 1,2, Weimin Yang 1,2, Chenyi Wang 1,2, Yaxin Yao 3, Dunmei Zhao 3, Sijia Lu 3,\*, Liyi Cai 1,2, \*, **Kai Deng 1,2,4, \***

*1Reproductive Medicine Department of Hebei Maternity Hospital, Shijiazhuang, China*

*2Shi Jiazhuang Technology Innovation Center of Precision Prevention and Control of Birth Defects, Shijiazhuang, China*

*3Yikon Genomics Co., Ltd., Suzhou, China*

*4School of Biomedical Engineering, Hubei University of Medicine, Shiyan, China*

### Clinical outcomes of frozen-thawed blastocysts with twice noninvasive chromosome screenings

#### Research Question

Does the double freeze-thaw procedure affect embryo quality or clinical outcomes for patients?

#### Design

A retrospective study was conducted on patients undergoing noninvasive chromosome screening (NICS) from March 2018 to April 2024. Patients were divided into two groups: (1) the double freeze-thaw group, whose cryopreserved blastocysts underwent a second NICS after thawing because the first NICS test failed, and (2) the single freeze-thaw group, whose blastocysts were successfully analysed in the first NICS. The clinical outcomes included the detection success rate of NICS via the analysis of thawing culture medium and the live birth rate.

#### Results

A total of 275 patients and 1,443 embryos were included, with a NICS detection failure rate of 6.7% (96/1,443). 87 were re-analysed after a second NICS using their thawed culture medium; 57.4% (50/87) of these re-tested embryos were classified as grade A or B. Sixty-two embryos were thawed and transferred in the doubled frozen-thawed group. Compared with the morphological grading before the first freezing, the ICM grade of two embryos decreased from A to B, and the TE grade of two embryos decreased from B to C before the second freezing. After 1:2 propensity score matching (PSM), results had no significant differences between the two groups in clinical pregnancy rate (57.78% vs. 62.22%,  $p=0.618$ ), ongoing pregnancy rate (44.44% vs. 48.89%,  $p=0.626$ ), and live birth rate (44.44% vs. 45.56%,  $p=0.903$ ).



## 2<sup>nd</sup> Edition of International Summit on **Diabetes, Endocrinology and Metabolic Disorders** **July 21-22, 2026 | Vienna, Austria**

### **Conclusions**

For blastocysts that initially failed NICS testing, high clinical pregnancy rates were achieved by re-applying NICS using the thawing culture medium.

**Keywords:** noninvasive chromosome screening; frozen-thawed embryos; clinical outcome; blastocyst transfer; Propensity score matching

### **Biography**

Dr. Kai Deng is the Director of the Shijiazhuang Technology Innovation Center of Precision Prevention and Control of Birth Defects and the Head of the Department of Medical Genetics at Hebei Maternity Hospital, China. He obtained his PhD in Biochemistry and Molecular Biology from the Institute of Biophysics, Chinese Academy of Sciences, in 2012, following a Bachelor's degree in Life Science and Technology from Wuhan University in 2007. From 2012 to 2024, he served as a Lecturer, Associate Professor, and Professor at Hubei University of Medicine, while also working at the Reproductive Medicine Centre of Shiyan Renmin Hospital as a Technician and later Chief Technician. Dr. Deng was a Visiting Scholar at the Wellcome Trust Centre for Human Genetics, University of Oxford (2014–2016), and at the European Bioinformatics Institute, Cambridge, UK (2021–2022). Since February 2024, he has led the Department of Medical Genetics at Hebei Maternity Hospital.

## 2<sup>nd</sup> Edition of International Summit on **Diabetes, Endocrinology and Metabolic Disorders** July 21-22, 2026 | Vienna, Austria



**Tiago M.S. Vila-Nova**, Kiriaque B. F. Barbosa,  
Analícia R. S. Freire, Dennys E. C. Cintra,  
Danielle G. Silva, Tânia M. de Andrade  
Rodrigues, Brenda M. Costa, Laryssa. G. S.  
Aragão Federal

*University of Sergipe, São Cristóvão, Brazil*

### **Effect of aged garlic extract on blood pressure and other cardiovascular markers in hypertensive patients and its relationship with dietary intake**

This is a randomized, double-blind, placebo-controlled clinical trial that aimed to examine the antihypertensive effect of aged garlic extract (AGE) and its relationship with dietary intake and cardiovascular markers in hypertensive individuals. Nineteen hypertensive individuals with uncontrolled blood pressure (BP) participated in the study. The study consisted of two groups treated with distinct interventions for 12 weeks: daily intake of 1.2 g of AGE (1.2 mg of s-allylcysteine) (n=9) or placebo (n=10). Mixed model analysis was applied to identify differences in waist circumference, blood pressure levels, and dietary intake, all collected at 4-week intervals. Before and after the intervention, glycemic, lipid, and fecal consistency parameters were evaluated; parametric analysis was used to investigate these data. Only systolic blood pressure was significantly reduced in the fourth and twelfth weeks of intervention in the experimental group. Furthermore, in the same group, an inverse correlation was observed between vitamin B12 intake and systolic blood pressure variation. This result presents important considerations regarding dietary care for prescribing supplements. In addition, it strengthens alternatives for blood pressure control, as the pressor effect of EAE is comparable to conventional antihypertensives, but without side effects.

**Keywords:** Aged garlic extract. Garlic. Hypertension. S-allylcysteine. B vitamins.

### **Biography**

Tiago Marcel Santos Vila-Nova is affiliated with the Federal University of Sergipe, São Cristóvão, Brazil. His research interests include nutrition, functional foods, hypertension, and cardiovascular health. He has contributed to scientific research investigating the relationship between dietary interventions and cardiovascular risk factors, with a particular focus on metabolic health and the role of functional foods in chronic disease prevention.



GLOBAL EXPERTS  
ONE PLATFORM



INNOVATIVE RESEARCH  
EVIDENCE BASED



INTERNATIONAL  
COLLABORATION



BETTER HEALTHCARE  
BETTER FUTURE



Vienna, Austria



July 21–22, 2026