Special Scientific Lecture 2

Chairperson

Hong Kyu Lee
Seoul National University, Korea

Speaker

Soo Lim
Seoul National University, Korea

Soo Lim

Seoul National University, Korea

• Education

Period	Affiliation	Position
– **2006-2009**	Seoul National University School of Public Health	Doctor of Public Health
– **2004-2006**	Seoul National University College of Medicine	Ph.D.
– **2002-2004**	Seoul National University School of Public Health	M.Sc.
– **1990-1996**	Seoul National University College of Medicine	M.D.

• Affiliations / Experience

Period	Affiliation	Position
– **2017-Present**	Endocrinology Seoul National University Bundang Hospital	Professor
– **2011-2012**	Massachusetts General Hospital/Harvard Medical School, Boston, MA, USA	Research fellow
– **2005-2017**	Endocrinology Seoul National University Bundang Hospital	Associate Professor
– **2001-2004**	Department of Quarantine National Institute of Health, Korea	Epidemiology Intelligence Service Officer
– **1997-2001**	Internal Medicine Seoul National University Bundang Hospital	Resident

• Committee Memberships

- American Diabetes Association
- Korean Diabetes Association
- Korean Society of Endocrinology
- Korean Society of Lipidology and Atherosclerosis

• Publications

- Sohn M, Nam S, Nauck MA, Lim S. Long-term comparison of renal and metabolic outcomes after sodium-glucose co-transporter 2 inhibitor or glucagon-like peptide-1 receptor agonist therapy in type 2 diabetes. *BMC Med*. 2024 Jul 2;22(1):273. doi: 10.1186/s12916-024-03483-z. PMID: 38956548; PMCID: PMC11218058
- Cho YK, Kim KS, Lee BW, Hong JH, Yu JM, Lim S, Kim YA, Lee CB, Kim SS, Kwak SH, Lee WJ. Efficacy and Safety of Pioglitazone Add-on in Patients with Type 2 Diabetes Mellitus Inadequately Controlled with Metformin and Dapagliflozin: A Multicenter, Randomized, Double-blind, and Placebo-Controlled Study. *Clin Ther*. 2024 Jul 26:S0149-2918(24)00198-X. doi: 10.1016/j.clinthera.2024.06.023. Epub ahead of print. PMID: 39068060
- Lee, Yong-Ho & MIN, KYUNGWAN & Hong, Jun Hwa & Lim, Soo & YU, JAEMYUNG & Chung, Choon & Moon, Jun Sung & Won, Jong Chul & AHN, CHUL & LEE, JIE-EUN & Kim, Tae & LEE, BYUNG-WAN. (2024). 853-P: Efficacy and Safety of HD-6277, a Novel GPR40 Agonist, in Patients with Type 2 Diabetes—A Double-Blind, Randomized, Placebo-Controlled, Parallel-Group, Multicenter Phase 2 Trial. *Diabetes*. 73. 10.2337/db24-853-P
- Kim NH, Moon JS, Lee YH, Cho HC, Kwak SH, Lim S, Moon MK, Kim DL, Kim TH, Ko E, Lee J, Kim SG. Efficacy and tolerability of initial triple combination therapy with metformin, dapagliflozin and saxagliptin compared with stepwise add-on therapy in drug-naïve patients with type 2 diabetes (TRIPLE-AXEL study): A multicentre, randomized, 104-week, open-label, active-controlled trial. *Diabetes Obes Metab*. 2024 Sep;26(9):3642-3652. doi: 10.1111/dom.15705. Epub 2024 Jun 10. PMID: 38853720
- Lim S, Sohn M, Nauck MA. Cardiovascular outcome with SGLT2i and GLP1RA. *Eur J Intern Med*. 2024 Jun 6:S0953-6205(24)00235-8. doi: 10.1016/j.ejim.2024.05.030. Epub ahead of print. PMID: 38849275

Special Scientific Lecture 2

Clinical Implication of GLP-1 Receptor Agonists and SGLT2 Inhibitors from a Cardiometabolic Perspective

Soo Lim (Seoul National University, Korea)

Certain sodium–glucose cotransporter-2 inhibitors (SGLT-2is) and glucagon-like peptide-1 receptor agonists (GLP-1RAs) compounds have shown not only safety, but superiority in their effects on preventing major adverse cardiovascular endpoints. Despite these advances, a comprehensive understanding of the distinct cardiovascular benefits of GLP-1RA and SGLT-2i has yet to be established. In contrast to most previous reports, we analysed and report the absolute risk reduction (ARR), which allows us to draw conclusions with more clinical consequences (e.g., numbers needed to treat). Our study aims to bridge this knowledge gap by indirectly comparing the ARR for 3P-MACE, the primary endpoint in large cardiovascular outcome trials, and for its components, between these two classes of therapeutic agents.

In the meta-analysis, which included all 12 available RCTs, both GLP-1RA and SGLT-2i therapies demonstrated a significant ARR for the risk of 3P-MACE compared with placebo. Of note, GLP-1RAs tended to exhibit a greater reduction in MACE risk than SGLT-2is. In the analysis of individual components of MACE, there were some differences between effects of GLP-1RA and SGLT-2i therapies. For CV death and nonfatal MI, significant ARR was observed with GLP-1RA therapy, but not with SGLT-2i therapy, though the between-group differences were not significant. Intriguingly, GLP-1RA treatment significantly reduced the stoke risk but SGLT-2i did not. Taken together, the trial's findings encourage further exploration into the complex mechanisms through which these agents confer cardiovascular protection, potentially leading to more targeted and effective treatments in the future.

[References]

1. Ahmad E*, Lim S* (co-first author), Lamptey R, Webb DR, Davies MJ. Type 2 diabetes. *Lancet* 2022 Nov 19;400(10365):1803-1820.
2. Neeland IJ, Lim S* (co-corresponding author), Tchernof A, Gastaldelli A, Rangaswami J, Ndumele CE, Powell-Wiley TM, Després JP* (co-corresponding author). The Metabolic Syndrome. *Nature Reviews Disease Primers*. 2024 [accepted]
3. Kadowaki T, Isendahl J, Khalid U, Lee SY, Nishida T, Ogawa W, Tobe K, Yamauchi T, Lim S (corresponding author). Effect of once-weekly subcutaneous semaglutide in adults with overweight or obesity, with or without type 2 diabetes, in an East Asian population. *Lancet Diabetes Endocrinol* 2022 Mar;10(3):193-206.
4. Lim S, Bae JH, Kwon HS, Nauck MA. COVID-19 and diabetes mellitus: from pathophysiology to clinical management. *Nature Rev Endocrinol*. 2021 Jan;17(1):11-30.
5. Jang HJ, Kim YJ, Lee DH, Joo SK, Koo BK, Lim S, Lee WJ, Kim W. Differential Class Effects of Oral Anti-diabetic Drugs on Nonalcoholic Fatty Liver Disease. *JAMA Intern Med*. 2024 Feb 12:e238029..