



이름: 조성필 / Sung Pil Cho, Ph.D.

직위: 부사장 / Vice President

소속: (주)메쥬 / MEZOO Co., Ltd.

기타소속:

강연제목: 실사용근거를 활용한 의료기기 허가 및 적응증 확대 / Medical device approval and indication expansion using Real-World Evidence(RWE)

Abstract:

Wearable ECGs are used to detect the heart diseases such as arrhythmias. In addition to heart diseases, wearable ECGs are being used to analysis other conditions such as diabetes, dementia, sleep apnea, menstrual disorders, and dialysis patients. In the case of diabetes, by analyzing heart rate variability (HRV) from wearable ECG of diabetic patients, it was found that poorly controlled blood glucose levels were associated with lower HRV in patients with DM. This was further substantiated by the independent continuous association between real-time measurements of hyperglycemia and lower HRV. These data strongly suggest that cardiac autonomic dysfunction is caused by elevated blood sugar levels. Also, autonomic dysfunction as a long-term complication may occur in end-stage kidney disease (ESKD) patients and can be diagnosed using the HRV analyzed from wearable ECG. Higher HRV was independently associated with a poorly controlled K⁺ and P⁺ level during hemodialysis in patients with ESKD. As such, wearable ECGs are showing promise for monitoring and managing various diseases and chronic conditions other than heart disease, and it is expected that the scope and importance of various wearable devices, including wearable ECGs, will increase.

Brief Biosketch

Sung Pil Cho received his B.S., M.S., and Ph.D. degrees from the Department of Biomedical Engineering, Yonsei University Mirae Campus in 2001, 2003, and 2011, respectively. He is currently a vice president at the MEZOO co., ltd. since 2007 and has been conducted clinical research using wearable devices and developing new digital biomarkers. His current research interests include risk analysis and prediction system for diabetics, chronic kidney failure, and arrhythmia patients based on wearable device.