FROM THE NEWS DESK

New ISH position paper published on latest technology in BP measurement

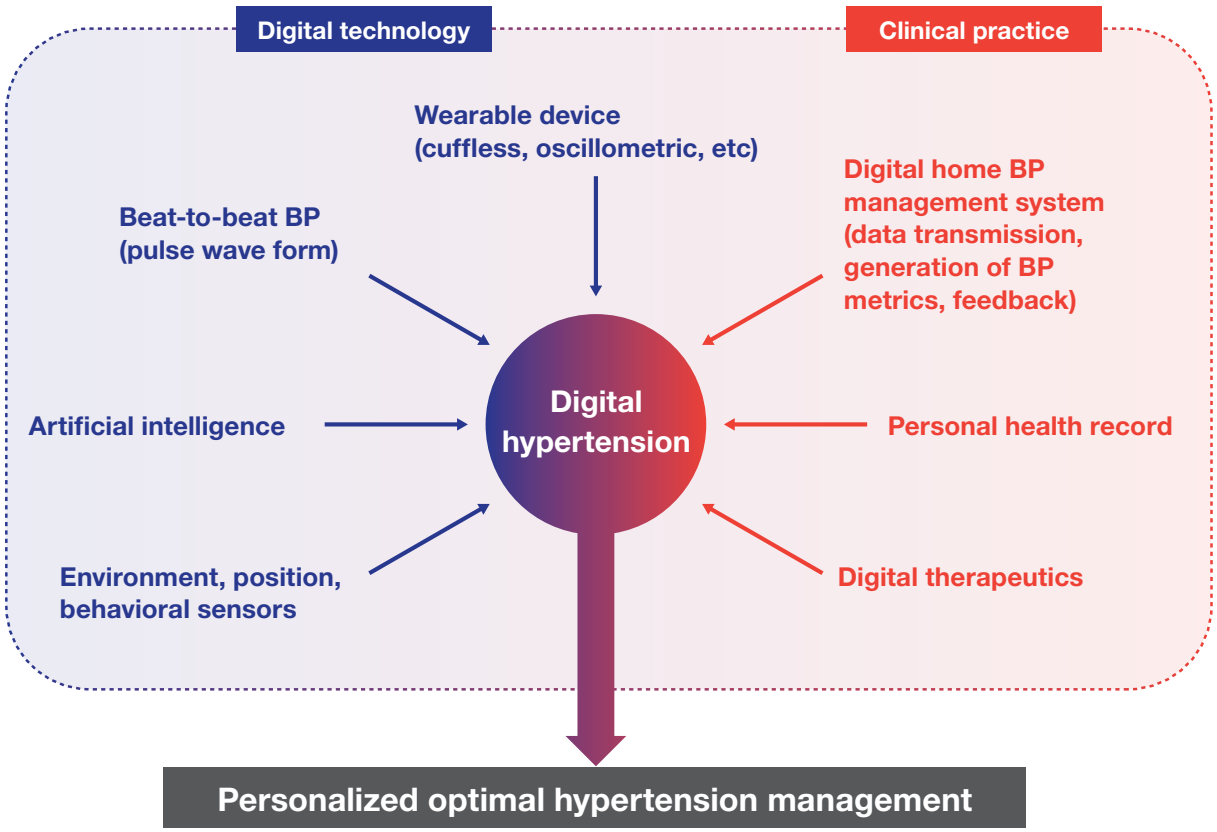
KAZUOMI KARIO

ISH Secretary, President of Japanese Society of Hypertension,
Chairman, Division of Cardiovascular medicine, Department of Medicine,
Jichi Medical University School of Medicine, Tochigi, Japan

Blood pressure is a very important factor in maintaining our health. It is known that blood pressure fluctuates with each heartbeat due to various factors and is significantly related to the risk of organ damage and cardiovascular diseases. However, traditional blood pressure measurements in clinics are conducted in quiet environments, making it difficult to capture the variations in blood pressure that occur in our daily lives. Recent hypertension guidelines have emphasized the importance of measuring blood pressure outside the office, taken by either home blood pressure monitoring or ambulatory blood pressure monitoring (ABPM) during daily activities.

As we advance into the digital era, there is an explosion of various biometric data in the healthcare and medical fields. In this context, digital technology is also undergoing innovation, and it is anticipated that hypertension treatment

Figure 1. Integration of new technology into clinical practices, resulting in the personalised optimal management of hypertension. BP, blood pressure.



will evolve from solely relying on measurements taken in the examination room to utilizing information about blood pressure fluctuations obtained from our daily lives.

Recently, research has been progressing using new digital technologies such as cuffless blood pressure monitoring, wearable health devices, digital therapeutics, and AI-driven telemedicine. Numerous academic papers have been published on these topics (Figure),[1-5] and I have a strong interest in this field and continue to conduct research. However, there is still no clear consensus on how useful these innovative technologies are and whether they can be reliably used in clinical practice.

In light of this situation, the International Society of Hypertension has compiled the "Innovations in Blood Pressure Measurement and Reporting Technology: International Society of Hypertension Position Paper."[6] This paper is supported by the World Hypertension League, the European Society of Hypertension, the Asian Pacific Society of Hypertension, and the Latin American Society of Hypertension. I believe this will help us understand the current status and limitations of cutting-edge digital hypertension research and care, as well as future prospects.

As outlined in the position paper, I feel that these innovations have the potential to revolutionize our blood pressure management. In particular, the ability to monitor blood pressure in real time and share that data with healthcare providers is expected to lead to better management and treatment. However, ease of use and accuracy are extremely important when implementing new technologies. I hope that as research continues and these challenges are overcome, we patients will be able to manage our blood pressure health based on reliable data, leading to “zero” cardiovascular events.

Kazuomi Kario – kkario@jichi.ac.jp

References

1.Kario K. Management of Hypertension in the Digital Era: Small Wearable Monitoring Devices for Remote Blood Pressure Monitoring.Hypertension. 2020;76:640-650.

2. Stergiou GS, Mukkamala R, Avolio A, Kyriakoulis KG, Mieke S, Murray A, Parati G, Schutte AE, Sharman JE, Asmar R, McManus RJ, Asayama K, De La Sierra A, Head G, Kario K, Kollias A, Myers M, Niiranen T, Ohkubo T, Wang J, Wuerzner G, O'Brien E, Kreutz R, Palatini P; European Society of Hypertension Working Group on Blood Pressure Monitoring and Cardiovascular Variability. Cuffless blood pressure measuring devices: review and statement by the European Society of Hypertension Working Group on Blood Pressure Monitoring and Cardiovascular Variability. J Hypertens. 2022;40:1449-1460.

3. Kario K, Harada N, Okura A. Digital Therapeutics in Hypertension: Evidence and Perspectives. Hypertension. 2022;79:2148-2158.

4. Khan NA, Stergiou GS, Omboni S, Kario K, Renna N, Chapman N, McManus RJ, Williams B, Parati G, Konradi A, Islam SM, Itoh H, Mooi CS, Green BB, Cho MC, Tomaszewski M. Virtual management of hypertension: lessons from the COVID-19 pandemic-International Society of Hypertension position paper endorsed by the World Hypertension League and European Society of Hypertension. J Hypertens. 2022;40:1435-1448.

5. Kario K. Digital hypertension towards to the anticipation medicine. Hypertens Re. 2023;46:2503-2512.

6. Kario K, Williams B, Tomitani N, McManus RJ, Schutte AE, Avolio A, Shimbo D, Wang JG, Khan NA, Picone DS, Tan I, Charlton PH, Satoh M, Mmopi KN, Lopez-Lopez JP, Bothe TL, Bianchini E, Bhandari B, Lopez-Rivera J, Charchar FJ, Tomaszewski M, Stergiou G. Innovations in blood pressure measurement and reporting technology: International Society of Hypertension position paper endorsed by the World Hypertension League, European Society of Hypertension, Asian Pacific Society of Hypertension, and Latin American Society of Hypertension. J Hypertens. 2024;42:1874-1888.