



Fusion of basic research and clinical medicine in the true sense in medical ultrasonics

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I was in Shanghai in early January 2020 for a gastrointestinal endoscopy-related workshop. I remember hearing at the time that some unknown form of pneumonia began going around in Wuhan around the end of November 2019. That was 2 years ago, and various things have happened around the world in the interim. We do not know if what we once considered “everyday life” before the pandemic will once again be the same “everyday life” after the pandemic eventually comes to some form of end. Personally, I liked everyday life before the pandemic. I would like everyday life to return to what it once was. The 5th wave has ended in Japan, and the spread of COVID-19 is under control at the moment (as of this writing on December 16, 2021). I will be keeping a close eye on the spread of the Omicron variant, which was detected in South Africa and was reported by the World Health Organization in November 2021, and what countermeasures will be deployed going forward.

My specialty is pancreatobiliary diseases in gastroenterology. Furthermore, my focus has been on cancer research and diagnosis/treatment. One relatively recent topic related to the diagnosis and treatment of cancer is the incorporation of comprehensive genomic profiling (CGP) in routine clinical practice. In Japan, two cancer gene panel test/CGP products received approval for insurance coverage in June 2019: FoundationOne® CDx Cancer Genome Profile and OncoGuide™ NCC Oncopanel System. Then, FoundationOne® Liquid CDx Cancer Genomic Profile, a liquid biopsy used to analyze circulating tumor DNA (ctDNA) and circulating cell-free DNA (cfDNA), received approval for insurance coverage in August 2021, giving one the sense that we now have a solid foundation for the clinical application of CGP. At the research level, several in-house oncogene panel tests are under development (those being independently developed at universities and research facilities). Nevertheless, some issues remain, including but not limited to

the timing at which these tests should be performed, the fact that the tests can only be performed once, and the fact that the likelihood of detection of a mutation leading to drugs being commercially available or available in clinical trial is not necessarily high at the present time. Despite these outstanding issues, I think there is no doubt that CGP will be inseparably connected with the diagnosis and treatment of pancreatobiliary cancer. These tests could not have been achieved without mutual understanding between basic researchers and clinicians who moved forward hand in hand, and their continued cooperation will be indispensable.

The Journal of Medical Ultrasonics (JMU) consists of academic research articles in a variety of engineering fields and a variety of clinical disciplines. In fact, it contains many features related to basic research and clinical medicine, and we take pride in the fact that they demonstrate the breadth of topics covered in JMU. However, we have not yet reached the point of addressing the mutual relationships between these disparate topics. I appreciate the fact that academically this is a very challenging task, but we cannot afford to just stand still. Like the example I gave above of CGP, I think that we need to actively create opportunities to discuss seeds and needs that connect basic research with clinical medicine. I think it could be discussed on the pages of JMU, and I think it could also be discussed among the editorial board members. In addition to its current editorial policy, I think that JMU will need to increase its efforts to transform into an academic journal that is able to forge new medical fields in which basic researchers and clinicians can jointly conduct research. The JMU Editorial Board will do its utmost again this year to publish articles that will be helpful to all of our readers.

Lastly, I sincerely hope that the new year is a wonderful one for all of our readers.

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