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EDITORIAL

Winners of the 2021 honor awards for excellence at the annual meeting of the *Chinese Medical Association-Taipei*: Part I

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We congratulate all outstanding researchers who won the 2021 *Outstanding Research Paper Award*s at the Annual Meeting of the *Chinese Medical Association-Taipei* (*CMA-Taipei*) on July 16, 2022, held at Taipei, Taiwan. All research articles have been selected from the 2021 issues of the *Journal of the Chinese Medical Association* (*JCMA*), which is one of the most popular medical journals with the achievement of 2021 new impact factor (IF) as 3.396. The current editorial is a "Part I," which introduces five excellent works with the development of new innovations.

The first winner is Dr. Liu who won the CMA-Taipei Outstanding Research Work Award for her publication, entitled "Concordance analysis of intrapartum cardiotocography between physicians and artificial intelligence-based technique using modified one-dimensional fully convolutional networks."[1] The detailed introduction has been shown before.[2] In brief, they used a novel artificial intelligence (AI) tool with a combination of fully convolutional networks and deep learning to provide a chance to monitor fetal well-being (fetal heart rate) and adequate uterine contraction during labor continuously and precisely. Their attempt, although too immature, is a really big advanced step, since with the assistance of AI, an immediate, prompt, uninterrupted, and possibly cost-effective supplement may be much valuable in the crisis setting or in contexts where the traditional medical care system is out of date, or when there is a shortage of medical care providers.[2]

Second, the winner of the outstanding research for gastroenterology and hepatology is Dr. Huang for his excellent work investigating the association between genetic background and the development of a relatively complicated hepatic disease-nonalcoholic steatohepatitis (NASH).[3] It is well known that the development of many chronic illnesses and aging diseases are an end of the emerging multiple attacks by genetic, epigenetic, microbiota, and environmental interactions.[4,5] Therefore, it is rational to suppose that many diseases, not only limiting to hereditary diseases, may be related to genetic and/or epigenetic alteration. Among these, gene polymorphism may be one of the most popular targets in modern science.[6] Based on the aforementioned strategies, the authors compared the genetic variations of manganese superoxide dismutase (*SOD2*), catalase (*CAT*), and glutathione peroxidase (*GPX*) among 126 patients with NASH, 56 patients with nonalcoholic fatty liver, and 153 healthy controls.[3] As expected, gene polymorphism of antioxidant enzymes indeed plays a role on the development of NASA. The authors found that the NASH patients had a higher frequency of *SOD2* C allele with an odd ratio (OR) of 2.36 and *CAT* T alleles with OD of 3.10 than the other two groups did and both mutant alleles showed the synergistically increased risk of the development of NASH (OR 8.57), proposing that genetic variants about these antioxidant enzymes, such as *SOD2* and *CAT*, may be vulnerable to developing NASH.[3]

The award of the general surgeon is given to Dr. Lei for his excellent research work discussing the value of using histopathological markers, such as hepatoma upregulated protein and Ki-67 for the prediction of surgical outcome after resection of hepatoma. The authors found that both multiple tumors and Ki-67 expression were statistically associated with progression-free survival (PFS) and besides two independent prognostic factors for PFS, macrovascular invasion, and indocyanine green retention rate at 15 minutes >15% also play an important role for overall survival.[7] Their research is a "typical" surgeon-initiated research program, since all surgeons pay their strong concern about the outcomes of patients after surgery, which includes immediate and delayed clinical situations, such as morbidity and mortality.[8] Additionally, for cancer treatment, the complete surgical resection is believed as a curative therapy, although there are still many patients who will still be complicated with recurrence and subsequent recurrence-related mortality during the follow-up period. Based on the aforementioned reasons, all surgeons are enforced to identify any risk factors that may be contributed to the therapeutic failure after surgery. The risk classification system is established. In fact, risk-stratified classification not only provides a more accurate prediction of the patients' outcomes but also offers a rescue method (adjuvant therapy) to minimize the therapeutic failure.[9] Dr. Lei attempted

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to provide a new marker to predict the outcomes, although they failed.[7] We still give a big applause to their effort, since recently, the application of molecular-based pathology into the conventional clinic-histopathology for a new risk stratification system has reached much success, although there is still a long way to go forward.[10] How to identify the risk in convention-based low-risk population to add extra-adjuvant therapy as well as how to avoid overtreatment for convention-based high-risk population is still ongoing.

The outstanding research award for cardiovascular (CV) system is given to Dr. Yang for her impressive work to evaluate the importance of a healthy lifestyle for coronary artery disease (CAD) patients.[11] As we know, modification of lifestyle to healthy status is recommended as a frontline therapy to manage patients with various kinds of metabolic, cardiovascular (CVD), and many other diseases, based on its safety and effectiveness, but these patients have a relatively low adherence rate to healthy life patterns, such as caloric restriction, body weight reduction, and regular and appropriate exercise, etc.[12,13] Dr. Yang and her colleagues found that greatest healthy lifestyle, such as no smoking, a healthy diet, and exercise, takes advantages on the reduction of risk of developing CVD, and adherence to the aforementioned healthy lifestyle was associated with significantly reduced risk of future CV events in stable CAD patients, proposing the prognostic significance of a healthy lifestyle beyond the conventional medical therapy with regard to biomedical and inflammatory profiles.[11] In fact, the main goal of healthy lifestyle modification attempts to minimize the worse interactions between genetic (epigenetic) factors and environmental factors, and this echoes the importance of Dr. Huang's study (gene polymorphism) as shown above.[3]

Finally, in terms of an excellent research award for studying the advance of the genitourinary (GU) system field, Dr. Chiang won this credit. Their article is entitled "Role of the kisspeptin/KISS1 receptor system in the testicular development of mice."[14] Dr. Chiang used the mouse model to detect the location of the Kisspeptin (*Kiss1*) and its receptor *KISS1R* in testis and explore their possible physiological role.[14] The authors found the location of *Kiss1* was in the cytoplasm of Leydig cells located adjacent to the seminiferous tubules and *KiSS1R* was detected in the seminiferous tubules.[14,15] Additionally, the functional role of *Kiss1* and *KISS1R* may be related to the maturation process, which was responsible for luteinizing hormone (LH) stimulation, because LH-associated cyclic adenosine monophosphate/protein kinase A (cAMP/PKA) pathway was involved in *Kiss1* secretion in Leydig cells, suggesting that *Kiss1*- and development-related factors have synergistic effects on spermatogenesis in the mouse model.[14,15]

This editorial is Part I, since a total of nine researchers have obtained the awards for different reasons and foundations. Herein, we congratulate five physicians to win the 2021 *Outstanding Research Award* from different fields, including obstetrics and gynecology, gastrointestinal and hepatic system, general surgery, CV system, and GU system. Their hard works indeed provide a big hand for patients' benefit.

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