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EDITORIAL

The Nobel Prize in Physiology or Medicine 2023 was awarded for discoveries concerning base modifications that enabled the development of effective mRNA vaccines against COVID-19

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The Nobel Prize in Physiology or Medicine 2023 was awarded to two outstanding scientists for their discoveries concerning base modifications that enabled the development of effective mRNA vaccines against COVID-19[1,2]. They are Dr. Katalin Karikó and Dr. Drew Weissman.

It is very well known that the reason for this award was for the basic research results and discoveries underpinning the development of effective mRNA vaccines against COVID-19, during the pandemic that began in early 2020[3–5]. When the COVID-19 outbreak began, it was thought that at least two or more years would be required to develop a completely effective conventional vaccine. However, an effective vaccine was developed much sooner than expected. After the outbreak of the COVID-19 pandemic, two base-modified mRNA vaccines, encoding the SARS-CoV-2 surface protein, were developed in record time. Protective effects of around 95% were reported, and vaccines were approved as early as December 2020.

These vaccines have had a large beneficial effect on people. Recently Nishiura and his group reported that the vaccination led to substantial reductions in the numbers of COVID-19 cases and deaths (33% and 67%, respectively)[6]. The preventive effect will be further amplified during future pandemic waves caused by variants with shared antigenicity[6]. However, just as any excellent medical treatment has its pros and cons, there are also reports of downsides to this vaccine therapy[7–9]. In this issue, Ishikawa provided a detailed explanation of inflammatory skin reactions[10]. The skin is the organ where side effects are most likely to occur and various skin side effects have been reported, including erythema multiforme[11]. Regarding side effects, it is necessary to accumulate detailed case studies to clarify causal relationships.

Trends in Immunotherapy is a journal that aims to broadly and deeply learn about the pros and cons of treatments, including for cancer, and share this knowledge and experience among us. In 2018, we introduced the Nobel Prize for Dr. Allison and Dr. Honjo[12]. The

mission of this journal is to be extremely innovative and highly scientific. I hope that future Nobel Prize winners will be selected from the manuscripts in Trends in Immunotherapy.

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Conflict of interest

The author declares no conflict of interest.

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