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LETTER TO EDİTOR

Experimental Animal Research in Vaccine Studies during the Pandemic Process

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The pandemic that emerged in Wuhan, China, in 2019, once again revealed the role of basic sciences and experimental animal research in the world. This situation, also called COVID-19, has spread rapidly all over the world in a short period of 3 months. It has been revealed that vaccination is more important than treatment in reducing mass deaths during the fight against the pandemic. The fact that RNA viruses constantly change their genetic properties was also a major challenge in finding an effective vaccine. However, increasing progress in basic sciences (especially mRNA technology) and the use of humanized mice have contributed greatly to reducing mass deaths. The fact that the Sars-Cov-2 virus does not cause infection in conventional mice and that it can create an infection model in mutant mice to which human lung epithelial genes are transferred has given great impetus to vaccine and new drug treatment studies. The first vaccine model was developed using these mice in vaccine studies. Nearly 176 vaccine types have been developed in the Covid-19 pandemic. These vaccines; viron vaccines are nucleic acid-based (mRNA), viral vector and protein-based vaccines. The mutant mice used in the first step of these vaccines created the disease model almost perfectly and ensured that the results in the target species (Human) progressed with fewer errors. Since the disease occurs in mice carrying human lung epithelium very close to the target species, they have played a major role in testing the protective effects of vaccines. The vaccines prepared towards the end of 2020 were made ready for use. Vaccine production has been carried out at an almost record speed in pandemics in world history. Although vaccines may have different effects and protection levels, the role of vaccines in the pandemic is undeniable. More than 2.5 billion doses of COVID-19 vaccines have been administered worldwide, and approximately 35 million doses continue to be administered every day. Experimental animal research, genetic research and gene transfer that started in the 1970s were used to obtain vaccines that were prepared in a short time and made available to humanity. technologies and mutant mouse technology play a huge role. Although the pandemic process is still not over, it is expected to ease and continue to have effects similar to seasonal flu. In this process, humanity has gained important experience in acting together and rapid vaccine development. The use of experimental animals is of great importance in these processes.

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