The impact of monoclonal antibodies on public health and healthcare delivery.

Ifedayo Yanronii*

Department of Public Health and Community Medicine, UNSW Sydney, Australia

Abstract

Monoclonal antibodies (mAbs) have become an important tool in the treatment of many diseases, including cancer and autoimmune disorders. In recent years, the use of mAbs has expanded to include the treatment of infectious diseases, such as COVID-19. The impact of mAbs on public health and healthcare delivery has been significant and their use is likely to continue to grow in the coming years.

Keywords: Monoclonal antibodies, Treatment, Antibodies, Myeloma cells.

Introduction

Monoclonal antibodies are laboratory-produced molecules that mimic the immune system's ability to fight off harmful pathogens, such as viruses and bacteria. They are made by combining two different types of cells: B cells, which produce antibodies and myeloma cells, which can be grown indefinitely in the laboratory. The resulting hybrid cells, called hybridises, produce a large quantity of identical antibodies that can recognize and bind to a specific target, such as a virus or cancer cell. The use of mAbs has revolutionized the treatment of many diseases, as they offer a highly specific and targeted approach to therapy. Unlike traditional chemotherapy, which can have significant side effects and damage healthy cells, mAbs only target the cells or molecules that are causing the disease. This can lead to improved outcomes and a better quality of life for patients [1, 2].

The impact of mAbs on public health has been significant, particularly in the treatment of cancer and autoimmune disorders. For example, the use of mAbs has led to significant improvements in the treatment of breast cancer and lymphoma, two of the most common types of cancer. In addition, mAbs have been used to treat autoimmune disorders such as rheumatoid arthritis and psoriasis, reducing the need for traditional immunosuppressive drugs that can have serious side effects. The use of mAbs has also had a significant impact on the treatment of infectious diseases. In recent years, mAbs have been used to treat Ebola virus and Zika virus infections and most recently, COVID-19. In the case of COVID-19, mAbs have been shown to reduce hospitalization rates and improve outcomes in high-risk patients. The use of mAbs as a treatment for COVID-19 has been particularly important, given the limited availability of vaccines in many parts of the world [3, 4].

The use of mAbs has also had a significant impact on healthcare delivery, particularly in the treatment of cancer. Traditional chemotherapy can be time-consuming and require hospitalization, leading to significant costs and a reduced quality of life for patients. In contrast, mAbs can be administered on an outpatient basis, reducing the need for hospitalization and allowing patients to continue with their normal activities. In addition, the use of mAbs has led to significant cost savings in the healthcare system. While mAbs can be expensive to produce, their highly targeted approach to therapy can lead to significant cost savings in the long term. For example, the use of mAbs to treat cancer c

Despite their many benefits, the use of mAbs also presents several challenges. One of the biggest challenges is the cost of production, which can be high due to the complexity of the manufacturing process. In addition, the need for highly specific targeting means that each mAb may only be effective against a small subset of patients, reducing their overall impact on public health. Looking to the future, the use of mAbs is likely to continue to grow in importance, particularly in the treatment of infectious diseases such as COVID-19.

A reduce the need for traditional chemotherapy, which can be expensive and require hospitalization. Similarly, the use of mAbs to treat autoimmune disorders can reduce the need for traditional immunosuppressive drugs, which can have serious side effects and require frequent monitoring [5].

Conclusion

In the context of COVID-19, monoclonal antibodies have played a crucial role in reducing the severity of illness and hospitalizations. By providing passive immunity, they have helped to bridge the gap between vaccine rollout and population immunity. They have also been used to treat other infectious diseases, such as Ebola and HIV, with promising

*Correspondence to: Ifedayo Yanronii, Department of Public Health and Community Medicine, UNSW Sydney, Australia, E mail: yanroniIfedayo@who.int=

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results. Overall, the impact of monoclonal antibodies on public health and healthcare delivery has been significant. They have provided effective treatments for a range of diseases and have played a crucial role in the fight against COVID-19. As research and development continue, we can expect monoclonal antibodies to become an even more important tool in the healthcare arsenal, potentially leading to further breakthroughs and improvements in patient outcomes.

References

1. Pinto D, Park YJ, Beltramello M, et al. Cross-neutralization of SARS-CoV-2 by a human monoclonal SARS-CoV antibody. Nature. 2020;583(7815):290-5.
2. Ravi S, Adalja AA. Strengthening the US medical countermeasure enterprise for biological threats. Health Secur. 2017;15(1):12-4.
3. Tsumoto K, Isozaki Y, Yagami H, et al. Future perspectives of therapeutic monoclonal antibodies. Immunotherapy. 2019;11(2):119-27.
4. van de Donk NW, Janmaat ML, Mutis T, et al. Monoclonal antibodies targeting CD 38 in hematological malignancies and beyond. Immunol Rev. 2016;270(1):95-112.
5. Wec AZ, Wrapp D, Herbert AS, et al. Broad neutralization of SARS-related viruses by human monoclonal antibodies. Science. 2020;369(6504):731-6.

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