BRAC UNIVERSITY School of Pharmacy

PHARMA HIGHLIGHTS

ISSUE 97 | October 2022

Seminar on 'Community Pharmacy: Prospects and Challenges'

A Community Pharmacy is an essential part of the wider health care system and provides health care support to patients and their families. Community pharmacists are responsible for the medicines supplied to a patient. They advise patients about how they can get the most from their medications and how they can manage illnesses. They also provide a range of clinical services like vaccinations, contraception services and blood pressure monitoring. There is an urgent need to promote the community pharmacy profession in Bangladesh for helping the patients to use medicines in a safe and effective manner.

As part of our 'Toolbox for Success' series, a seminar on 'Community Pharmacy: Prospects and Challenges' was organized for the students of the School of Pharmacy, BRAC University on October 13, 2022. Having the relevant expertise and experience in this field, we had with us our distinguished guest speaker, Mr. Ajit Das, M.Pharm, AACPA, MPS (Australia), Accredited Pharmacist. In this seminar, Mr. Ajit shed some light on the prospects and challenges of this profession and shared his experience in patient care and management.

Mr. Ajit Das graduated from University of Dhaka with a bachelor's degree in Pharmacy and a master's degree in Clinical Pharmacy and Pharmacology. Currently, he is working as the pharmacist partner at Terry White Chemmart Brighton in South Australia. He is a passionate consultant pharmacist helping patients to improve quality of life by minimizing medication related errors. He has a high-level of expertise in home and residential medication management reviews, and knowledge of clinical pharmacy, pharmacy practice and business management for more than thirteen years. He also has experience in forward dispensing, customer service and capabilities in managing complex issues such as geriatric health. Apart from professional activities, Mr. Ajit is the current Vice President Education (VPE) of Adelaide City Toastmaster club where he is mastering his public speaking skills to establish himself as a visionary leader in his professional field.

The seminar was moderated by Ms. Namara Mariam Chowdhury, Lecturer, School of Pharmacy, Brac University. Faculty members, teaching assistants and students of the School of Pharmacy attended the seminar.

Written by: School of Pharmacy

Welcoming Alumni as New Faculty Members

In the month of September, the School of Pharmacy welcomed two new lecturers, Syeda Maliha Ahmed and Nashrah Mustafa, both alumni of the School of Pharmacy. With their addition, the School of Pharmacy now has a total of 6 alumni who have become faculty members: Tanisha Tabassum Sayka Khan, Faruque Azam, Tanisha Momtaz, Farzana Islam, Syeda Maliha Ahmed and Nashrah Mustafa. It is a very proud moment for us, and we hope to have more alumni join in the future.

Written by: School of Pharmacy

Newsletter Editorial Board: Namara Mariam Chowdhury, Farzana Islam, Kazi Fatema Rahman, Tanisha Tabassum Sayka Khan

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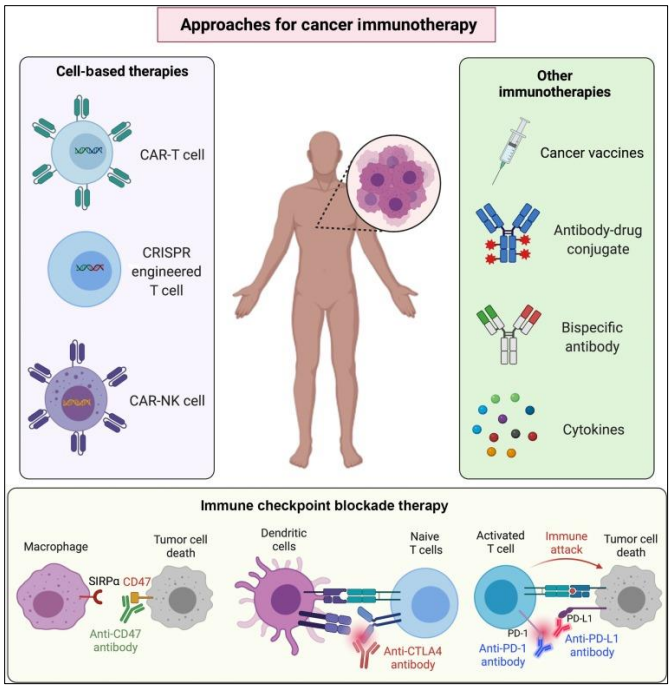
Immunotherapy: A Breakthrough in Cancer Treatment



Cancer immunotherapy, also known as immuno-oncology, is a form of cancer treatment that uses the power of the body's own immune system to prevent, control, and eliminate cancer. Immunotherapies are a form of biotherapy (also called biologic therapy or biological response modifier (BRM) therapy) because they use materials from living organisms to fight disease. Some immunotherapy treatments use genetic engineering to enhance immune cells' cancer-fighting capabilities and may be referred to as gene therapies. Many immunotherapy treatments for preventing, managing, or treating different cancers can also be used in combination with surgery, chemotherapy, radiation, or targeted therapies to improve their effectiveness.

How does immunotherapy spark the immune system to help fight cancer?

Checkpoint inhibitors: Where cancer cell signals that trick the immune system into thinking they are healthy cells are disrupted, exposing them to attack by the immune system.

Cytokines: Where protein molecules called cytokines-those that help regulate and direct the immune system-are synthesized in a laboratory and then injected into the body in much larger doses than are produced naturally.

Cancer vaccines: Which may reduce the risk of cancer by attacking viruses that cause cancer, or may treat cancer by stimulating the immune system to attack cancer cells in a specific part of the body.

Immunotherapy may be used alone or in combination with other cancer treatments, such as surgery, chemotherapy, radiation therapy and targeted therapy.

Common drugs used in immunotherapy

Current checkpoint inhibitor drugs target the PD-1 and the CTLA-4 receptors. Common checkpoint inhibitors include Ipilimumab (Yervoy®), Pembrolizumab (Keytruda®), Nivolumab (Opdivo®), Atezolizumab (Tecentriq®). Common cytokines used in cancer therapy include Interleukin-2 (IL-2), Interferons-alpha (IFN-alpha).

Tumor-agnostic therapies

The FDA has also approved immunotherapy to treat cancers with specific genetic features, regardless of where in the body they originate. These treatments, called tumor-agnostic therapies, may be used to treat these malignancies:

- Solid tumors with microsatellite instability-high (MSI-h) or mismatch repair deficiency (dMMR): These tumors may have unstable strands of DNA or are unable to repair DNA damage.
- Solid tumors with high tumor mutation burden (TMB-h): These tumors have cells with a high number of different gene mutations, which may make them more likely to respond to immunotherapy.

Overall, immunotherapies are still less common than surgery or chemotherapy to treat cancer. But for some types of cancer, these therapies are now an important treatment option. Many other immunotherapies are still in clinical trials. Immunotherapies have the potential to be more comprehensive and less toxic than other types of treatments for cancer, because they harness the power of the body itself to attack the tumor instead of introducing chemicals into the body. Immunotherapies are a very active area of research in cancer therapy, and new treatments continue to be approved.

Written by: Rabeya Mollika (Teaching Assistant)

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Technology Advancements in Healthcare

It is no mystery that the healthcare industry has evolved dramatically over the last century. Things have changed for the better, and new discoveries have been made. Technology has impacted all kinds of industries, including healthcare, as it continues to evolve. In terms of results and diagnostic tests, what used to take days can now be completed in hours. More cutting-edge machines and equipment are used in surgeries. Paper based workflows have transitioned to electronic health records (EHR) and digital health has grasped the healthcare industry.

3D Printing

Bones and some internal organs can now be reproduced using 3D printing technology. After that, the artificial organs and bones can be implanted into the patient's body to replace diseased areas.

Surgeons are now using 3D printing to gain a better understanding of what is going on inside the bodies of their patients. A surgeon will take a closer look at the problem and simulate a variety of solutions or possible operations before performing the real surgery on the patient using a 3D model.

Prosthetics have also been transformed by 3D printing. Getting a customized prosthetic hand or leg is much less expensive and feasible with a 3D printer now.

Big Data

From X-rays to blood test results, patients produce massive quantities of data – patient records. Patient care is made simpler and more effective by replacing paper with computerized summaries, i.e., EHR. Because of genomics and personalized medicine, the amount of information available in the future will skyrocket, and as more patient data is gathered, more insights will become accessible.

When computers collect data on patient disease, treatments, and outcomes, important information about the efficacy of those treatments, as well as relationships between side effects and patient characteristics, is automatically gathered across entire populations. The term "big data" refers to the massive quantities of data that will be gathered. The incremental cost of adding one new patient will be effectively zero once the infrastructures are in place, and this economy of scale will drive further technological advancements. Epidemiologists will benefit greatly, but the benefits to people will be less apparent, unless big data contributes to the advancement of medical science in general in the long run.

Digital Health

The broad scope of digital health includes categories such as mobile health (mHealth), health information technology (IT), wearable devices, telehealth and telemedicine, and personalized medicine.

Nearly 80% of doctors polled think that telemedicine is a better way to handle chronic illnesses. Telemedicine makes it possible to monitor patients from afar. Because of the power and reach of technology, clinicians can cover a wider area, even on an international level, regardless of geographic distance. Furthermore, healthcare professional shortages can be addressed. Remote tracking technology has the potential to reduce the number of unnecessary face-to-face consultations. Telemedicine, in fact, lowers the cost of healthcare for patients by reducing the number of visits to the hospital or doctor's office. It gives them access to care through a variety of devices and lowers therapy costs by keeping people out of hospitals when they are not needed.

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