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New drug combinations offer better efficacy : Dr Manu Jaggi

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Q: What kind of growth are you expecting in the oncology market? Which are the factors that are expected to propel the same?

The Indian oncology market is forecast to grow strongly in the next decade, driven by the rise in cancer incidence and diagnosis, improved access to cancer therapies, better health insurance coverage, and higher pharmaceutical spending, particularly among the growing middle class. Since cancer is the second largest cause of death in the country, the Indian market is characterized by a huge demand for cancer drugs. It is a highly fragmented market with a large number of foreign and domestic players. The Indian Government, on its part is taking initiatives to work out public-private partnership projects (PPP) and reduce the essential drug prices. The increase in government expenditure on health and improved access to cancer drugs will also drive the uptake of cancer therapeutics in the future.

Q: Will the biologics and targeted therapy as predicted really grow faster than chemotherapy? What are the latest trends in these two areas?

The global cancer market is going to be driven by the biologics. These drugs that are now appearing on the market are just the first wave of new anti-cancer therapies. The repertoire will expand rapidly over the next five years as more targets are identified. Some of the newest and most promising areas of cancer treatment are biologic therapies and other so-called "targeted" therapies. Since cancer cells divide and grow at an abnormal rate, biological therapy focuses on blocking the signal that tells the cancer cells to grow. Another feature of cancer cells is that they often override apoptosis and become "immortal." Targeted therapies can tell the cancer cells to undergo apoptosis. Targeted therapies can also make the cancer cells more recognizable to our own immune system, which can then seek out and destroy the abnormal cells. However, caution must also be exerted as biologically targeted drugs are primarily cytostatic as opposed to cytotoxic, and therefore, sometimes fail as monotherapy.

Next decade will see more combination therapies where biologics will be combined with chemotherapy to achieve a better response rate.

Q: Which are the key challenges before the companies in the Indian oncology market?

Oncology remains the single largest therapeutic area for both large pharmas and start up companies. However with drying pipelines, increasing cost of launching new drugs, and patent expiries, developing new anticancer drugs is a major challenge. With the slowing down of the introduction of new anticancer drugs in the last decade, there is a need to improve upon existing drugs with respect to their formulations. It is possible to make existing drugs safer and more effective using novel drug delivery techniques such as nanoparticles and liposomes. The new drug combinations also offer hope of better efficacy in patients.

Q: Please tell us about latest developments in the area at DRF?

While targeted drugs are here to stay for at least another decade, cancer stem cells and differentiated drugs hold tremendous potential for treating cancer. DRF has taken several steps to face the challenges ahead.

Cancer Stem Cells: There is a growing body of evidence accumulating which suggests that cancer stem cells exist in a variety of tumors. Just as monoclonal antibodies held promise and hope for treating cancer a decade ago, a radical new cancer treatment is likely to emerge from a scientific breakthrough in the understanding of how tumors grow. The theory that a fraction of tumor cells, dubbed cancer stem cells, is responsible for the malignancy of tumors is gaining adherents among once-skeptical oncologists. DRF has spent last several months understanding the intricacies of working with human stem cells and is now geared up to initiate preclinical studies in this exciting new field that holds so much promise for treating cancer.

Targeted Therapy: Ever since the first targeted therapy was developed for treating breast cancer several years ago, this treatment modality has given doctors a better way to tailor cancer treatment, especially when a target is present in some but not all tumors of a particular type. Eventually, treatments may be individualized based on the unique set of molecular targets produced by the patient's tumor. Having developed its own peptide based kinase inhibitor in the past, DRF is well versed and equipped to develop newer and safer drugs. We have several ongoing projects where new drugs are being developed that target both new as well as clinically validated targets.

Differentiated Drugs & Combination Therapy: With the slowing down of the introduction of new anticancer drugs in the last decade, there is a need to improve upon existing drugs with respect to their formulations. It is possible to make existing drugs safer and more effective using novel drug delivery techniques such as nanoparticles and liposomes. New drug combinations also offer hope of better efficacy in patients. DRF has experience and knowledge in both of these areas and is currently developing new treatment options using these technologies.