BioSpectrum the business of Bio & Health Sciences

# "Biologics to drive future oncology market"

26 August 2013 | Features | By Rahul Koul Koul

**Biologics to drive future oncology market**

According to a recent Frost & Sullivan report, the oncology market in India is presently growing at 20 percent year-on-year. It mentions that the chemotherapy, biologics, targeted therapy, hormonal therapy, and supportive care are the different types of available cancer treatment in India; among which chemotherapy recorded the highest market value of approximately Rs 700 Crore in 2012. According to the report. oncology market in India is forecasted to grow to Rs 3831 crore by 2017 at a compounded annual growth rate (CAGR) of 15.46 percent. At the same time, it also predicts a sharp rise in the market share percentage of biologics and targeted therapy, which are poised to overtake chemotherapy as the preferred treatment option.

Says Dr Manu Jaggi, vice president, R&D, Dabur Research Foundation, "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 increase in government expenditure on health and improved access to cancer drugs will also drive the uptake of cancer therapeutics in the future."

Due to high rates of smoking, tobacco use, occupational risks and unhygienic living conditions, Indians are at a high risk of acquiring cancer. Studies have revealed that incidence of cancer is higher amongst women than men. Cancers of oral cavity and lungs in males, and cervix and breast in females, account for over 50 percent of all cancer-related deaths in India at present. In India, there are 28 lakh prevalent cases of all types of cancer, while at least 8 lakh new cases are being witnessed every year.

Ms Rekha Ranganathan, head, oncology, Philips Healthcare, is of the opinion that continued advancements in cancer research, diagnosis and treatment is aimed at controlling incidence and mortality although the rate at which it is spreading is high. "Cervix and breast cancer in females, oral cavity and lungs in male account for over 50 per cent of all cancer-related deaths in India. Only a small percentage of all cancer cases can be attributed to genetic defects, whereas the majority has

their roots in the environment and lifestyle. Advancements in medical imaging from X rays, Ultrasound, robotics devices to Nuclear Medicine (Planar and SPECT Gamma Imaging, PET) for cancer detection and treatment have come a long way in improving the quality of patient's life," she adds.

"The oncology pharmaceuticals market in India is the fourth largest in volume and the eighth largest in value in the global market. Since cancer is the second largest cause of death in the country, the Indian market is characterised by a huge demand for cancer drugs. It is a highly fragmented market with a large number of foreign and domestic players," says Dr Manu Chaudhary, joint managing director Venus Remedies.

**Biologics and targeted therapy to overtake chemotherapy**

With the emergence of new technologies and a greater understanding of the biological basis for cancer evolution, the molecular changes that distinguish malignant cells from normal cells are becoming increasingly apparent. This offers a growing range of potential drug targets in the form of altered gene expression, proteins and corrupted pathways. The increased selectivity offered by these unique targets offers developers the opportunity to explore more effective and less toxic molecular targeted treatments.

Experts believe that the global cancer market is going to be driven by the biologics. Dr Manu Jaggi who agrees says that these drugs that are now appearing on the market are just the first wave of new anti-cancer therapies. Adds Dr Jaggi, "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. These can also make the cancer cells more recognizable to our own immune system, which can then seek out and destroy the abnormal cells. However, as per Dr Jaggi, caution must also be exerted as biologically targeted drugs are primarily cytostatic as opposed to cytotoxic, and therefore, sometimes fail as monotherapy. While targeted drugs are here to stay for at least another decade, cancer stem cells and differentiated drugs hold tremendous potential for treating cancer.

Biocon is one of the few Indian companies to offer four targeted therapies in a short span of time. The success of our flagship brands,BIOMAb EGFR® and AbraxaneTM has placed Biocon among the top 10 oncology players in India. In addition, we have a wide portfolio of supportive care and cytotoxic drugs, at very affordable rates.

"As of now, cytotoxics used in chemotherapy are growing at 12% whereas targeted therapies are growing at 35%.I believe this trend will continue in India given the improving treatment outcomes with safer targeted therapiescompared to the less-than-optimal safety profile of chemotherapy agents. Nevertheless, given the relatively higher cost of developing biologics and targeted therapies, the switch would happen at a slower pace in developing countries like India, where these drugs remain unaffordable for a large section of the population," says Shukrit Chimote of Biocon.

Next decade is also expected to witness more combination therapies where biologics will be combined with chemotherapy to achieve a better response rate. Targeted agents currently constitute a majority of the novel drugs entering clinical trials. As per experts over 200 novel targeted drugs are under Phase I clinical trials, mostly small molecule protein kinase inhibitors or monoclonal antibody (MAb)-based blockers of cell surface receptors. It is anticipated that in this decade, such agents will also be clinically evaluated in combinations with each other.

"This targeted therapy is the future and as we are moving towards high precision diagnosis with low dose which helps in targeted therapy. Low toxicity and low radiation is the key element in targeted therapy to achieve better result with very minimum or no side effect. However today chemotherapy and surgery are the most prevalent treatment options", opines Rekha Ranganathan.

Dr Manu Chaudhary feels that the biologic molecular targeted therapies have driven much of the recent high growth in the oncology market, and include three leading anticancer brands. "As a consequence, a number of drug developers have tried to capitalise on the success of this therapy class, incorporating biologic agents into their pipelines."

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.