



Kaleidoscope

Working for a Better Tomorrow

From the Director's Desk



Hi! Here we are again with yet another interesting issue of Naprod's Kaleidoscope.

A few days back the Indian Economy's GDP numbers were published for the first quarter of the Financial Year 2019-20 (April to June). First time in six years, the growth has slipped below the 6% mark. There are multiple factors contributing to the same including deceleration in consumer demand and tepid investment. Trade war and Brexit too have also contributed to some extent. This phase is a temporary course correction; nothing to be alarmed about. The government has already announced a series of measures in the past week as part of its efforts to put growth back on track. But as usual, the perennial pessimists are having a field day in predicting gloomy future but the truth is totally to the contrary. Indian economy is standing on sound fundamentals and is safe hands.

At Naprod, there have been few developments. The ever increasing demand for our quality products has put tremendous pressure on our manufacturing capacity. We are in the process of setting up a separate

manufacturing line for Propofol thereby significantly enhancing the capacity of general liquid and general lyophilized products. Oncology plant's capacity has also been enhanced by 40%. An additional lyophilizing machine is planned and will be operational shortly. All these steps will greatly reduce the demand-supply gap.

To provide more focus and direction to the ever expanding Indian domestic formulations business, a Sales Head has been appointed who will oversee the operations of the three business verticals. An experienced GM-Corporate RA has been appointed who will ensure speedy, accurate and timely documentation process for various markets. Medical Services department is set up with a full time professional.

Happy to inform you that Naprod's facility has been audited by EFDA, Ethiopia.

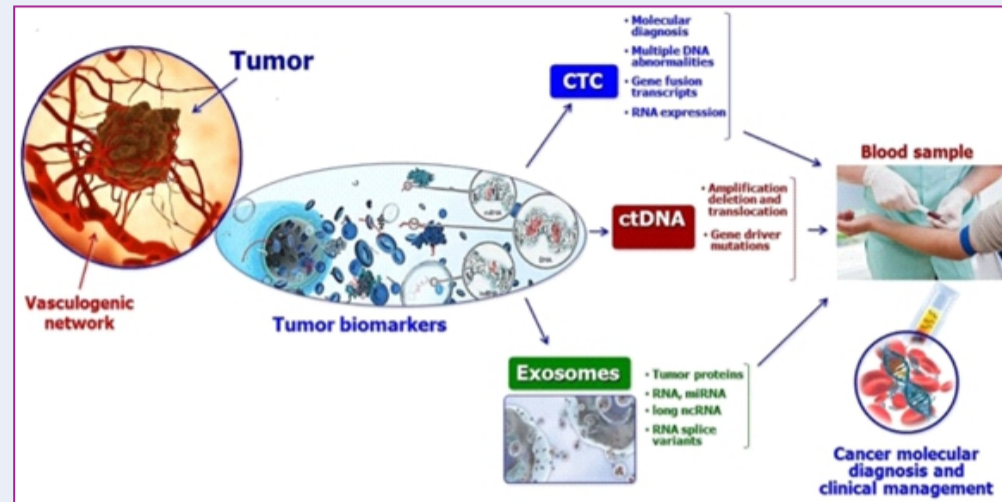
There are a few interesting medical news from around the world in this issue of Kaleidoscope too. I am sure you will enjoy reading them.

Best wishes to you, your families and your staff.

Mohan B. Jain
 Managing Director
 Naprod Life Sciences.



News from around the world of Medicine



Wearable cooling and heating patch could serve as personal thermostat and save energy

Engineers at the University of California San Diego have developed a wearable patch that could provide personalized cooling and heating at home, work, or on the go. The soft, stretchy patch cools or warms a user's skin to a comfortable temperature and keeps it there as the ambient temperature changes. It is powered by a flexible, stretchable battery pack and can be embedded in clothing. Researchers say wearing it could help save energy on air conditioning and heating.

A building block for smart clothing:

The ultimate goal is to combine multiple patches together to create smart clothing that can be worn for personalized cooling and heating. So engineers designed a soft electronic patch that can stretch, bend and twist without compromising its electronic function.

Liquid Biopsy- an extremely powerful & reliable noninvasive diagnostic tool

"Liquid biopsy is based on minimally invasive blood tests and has a high potential to significantly change the therapeutic strategy in cancer patients, providing an extremely powerful and reliable noninvasive clinical tool for the individual molecular profiling of patients in real time. Liquid biopsy approaches include the analysis of circulating tumor cells (CTCs), circulating tumor DNA (ctDNA), circulating miRNAs, and tumor-derived extracellular vesicles (EVs) that are shed from primary tumors and their metastatic sites into peripheral blood. The major advantage of liquid biopsy analysis is that it is minimally invasive, and can be serially repeated, thus allowing extracting information from the tumor in real time. Moreover, the identification of predictive biomarkers in peripheral blood that can monitor response to therapy in real time holds a very strong potential for novel approaches in the therapeutic management of cancer patients."

Cancer drug could be used to treat brain aneurysms, shows research

An important class of drug used to treat cancer patients could be used to treat brain aneurysms, according to new published research.

Brain aneurysms are a bulge in a blood vessel caused by a weakness in the blood vessel wall. As blood passes through the weakened blood vessel, blood pressure causes a small area to bulge outwards. They can develop anywhere in the body but are most common in the abdominal aorta (the artery that carries blood away from the heart) and the brain.

It's difficult to estimate exactly how many people are affected by brain aneurysms as they usually cause no symptoms until they rupture, but experts believe it could be anywhere from 1 in 100 to as many as 1 in 20 people. Treatment is difficult, involving complex surgery which is currently only attempted in select cases.

Working in collaboration with colleagues at University of Washington School of Medicine in Seattle, USA, scientists at the University of Sussex may now have found a safer and more efficient possible treatment involving 'Receptor tyrosine kinase inhibitors'; a class of drug currently used to treat cancer.

Using sophisticated 'next generation' DNA sequencing technologies, teams in Washington lead by Manuel Ferreira, Associated Professor of Neurological Surgery, identified a new genetic basis of a form of brain aneurysm (mutations PDGFRB). This was unexpected, as mutations in this gene have been previously identified in completely different human developmental disorders

Entrectinib: One step ahead towards personalized medicine

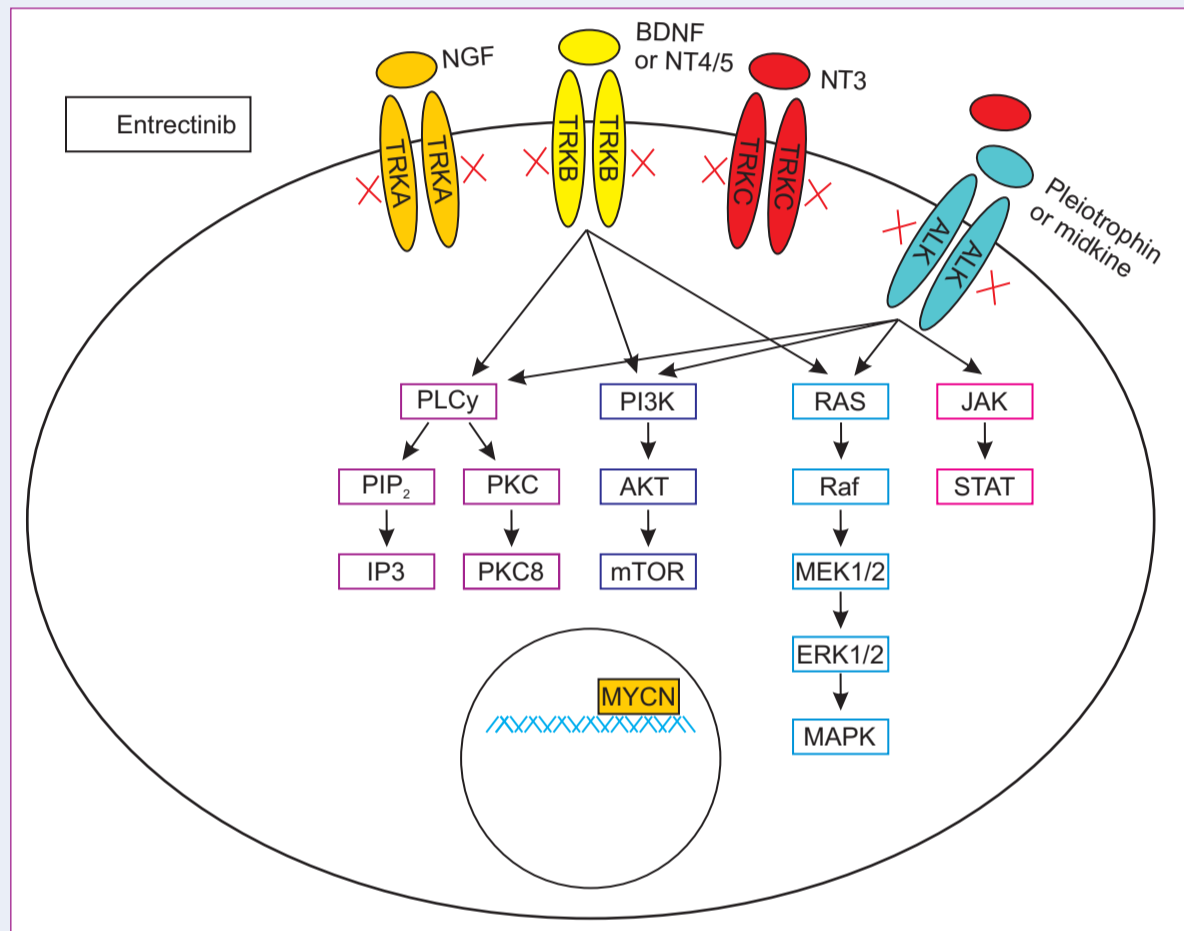
"Entrectinib has orphan drug designation and rare pediatric disease designation for the treatment of neuroblastoma and orphan drug designation for treatment of TrkA-, TrkB-, TrkC-, ROS1- and ALK-positive non-small cell lung



cancer (NSCLC) and metastatic colorectal cancer (mCRC). It has an EU orphan designation for neuroblastoma. FDA approves entrectinib for people with ROS1-positive, metastatic non-small cell lung cancer and NTRK gene fusion-positive solid tumours. It is first FDA-approved treatment designed to target both ROS1 and NTRK that also shows response in cancer that has spread to the brain. Before that it was approved in Japan.”

Entrectinib is a selective tyrosine kinase inhibitor with specificity, at low nanomolar

concentrations, for all of three Trk proteins (encoded by the NTRK1, 2, and 3 genes, respectively) as well as the ROS1, and ALK receptor tyrosine kinases. The drug is orally administered, once daily, and is being studied in patients whose tumors have been shown to have fusions in NTRK1/2/3, ALK, or ROS1. As a ROS1 inhibitor, entrectinib has demonstrated in cellular anti-proliferative studies to have a 36-fold greater potency against ROS1 as compared with another commercially available ROS1 inhibitor, Crizotinib.





Humor is the best medicine!!



Wife was in the ICU
Doctor: It seems she is in coma.

Husband: Please save her. She is just 30.

Suddenly the ECG started beeping. A hand moved, her lips mumbled.

And she spoke: I'm 29.



Sovereign in Oncology

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