

A Look into the Future

A multi-disciplinary team of doctors and scientists from Singapore has characterised the genetic changes associated with the spread of colorectal cancer to the liver. This will help in developing personalised diagnostic tests for patients with colorectal cancer based on the genetic changes in each individual's colon tumour. The research team comprises representatives from National Cancer Centre Singapore (NCCS), Singapore General Hospital (SGH), Duke-NUS Graduate Medical School (Duke-NUS), A*STAR's Genome Institute of Singapore (GIS) and Cancer Science Institute Singapore (CSI Singapore) of the National University of Singapore (NUS).

Colorectal cancer is Singapore's most common cancer. Most patients are initially diagnosed with an early stage disease. However, some will develop a recurrence of the cancer (metastasis), typically in the liver, one to three years after colon surgery. If identified early, the liver metastasis may be removed surgically.

The Singapore team found that every individual's cancer had a unique set of about 15 key genetic mutations, most of which were identical in each individual patient's colon tumour and liver metastasis. The team seeks to develop new diagnostic tests to identify early spread of the cancer based on the genetic information found in the removed cancer from the first colon surgery. The team has been awarded a grant from the National Medical Research Council (NMRC).

This study was performed in partnership with the POLARIS program, a strategic national programme funded by A*STAR to translate local research findings towards "fit-for purpose" applications for diagnosis and treatment of diseases in Singapore.

Wising up to Dementia

The Well Being of the Singapore Elderly (WiSE) study conducted in 2013 and spearheaded by the Institute of Mental Health (IMH), has been completed. This nationwide epidemiological study established the prevalence and risk factors of dementia and depression among those aged 60 years and above in Singapore.

The study results pertaining to dementia is now available while the information on depression will be presented once the analysis of the data is completed. Some key findings were that the prevalence of dementia was 10% in the elderly population (60 years and above) in Singapore, and significant factors associated with dementia were older age, prior stroke, and having a lower education as well as non-employment.

The study also looked into caregivers of those with dementia. Care needs and arrangements varied for those with and without dementia. Caregivers of people with dementia reported significantly higher distress related to behavioural and psychiatric symptoms of dementia and psychological problems as compared to caregivers of people without dementia.

Innovating New Foods

DSM, the world's leading supplier of vitamins, carotenoids and other essential ingredients to the food, pharmaceutical and nutrition industries, has opened the DSM Nutrition Innovation Centre in Singapore. With its unique focus on customer co-creation, the centre is the first of its kind in the region.

The centre will be a one-stop facility where food marketers and scientists collaborate to develop nutritious food, beverages and health supplements for their business customers to then brand and retail to customers. Much of the innovation behind healthy food and beverages happens at such innovation labs in creating products to meet Asia's diverse nutrition landscape between the wealthy rich and the rural poor.

Some of DSM's innovative healthy food/drinks in development include new food ingredients for healthy heart, nutrition improvement products like vitamin-fortified biscuits, functional juice and milk with Omega-3 for kids, and beauty gel and juice shots.

Treating Autism with Cord Blood

Cordlife, a leading umbilical cord blood and cord lining banking service provider, partners with autism and epilepsy treatment pioneer Dr Michael G. Chez from Sutter Medical Group, in the continued study to treat child autism with the patient's own cord blood stem cells.

Autism is a life-long developmental disorder that affects 1 in every 167 people in Singapore. Over

200 children are diagnosed annually.

Cord blood remaining in the umbilical cord and placenta after birth is a rich source of hematopoietic stem cells, which have been used in the treatment of over 80 diseases. Cord blood contains the youngest cells that can be safely collected, presenting a potentially viable option in treating autism in children. This feasible possibility played a central role in the FDA trial pioneered by Dr Chez.

Dr Chez is currently working with Cordlife to identify physicians in Singapore to perform pioneering use of the patient's own cord blood stem cells for the treatment of childhood autism. All enquiries relating to this potential treatment option can be directed to therapy@cordlife.com.