

GP IN-SYNC

A monthly e-newsletter by
NUH GP Liaison Centre



GP Appointment
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Specialist in Focus

Dr Yong Wei Peng



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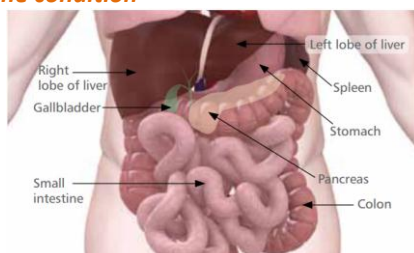
Dr Yong Wei Peng obtained his medical degree and postgraduate training at the University of Aberdeen, Scotland. After completing an oncology fellowship at the National University Hospital, he was awarded the A*STAR International Clinical Pharmacology Fellowship at the University of Chicago.

Upon his return to Singapore, he was given a three-year Investigatorship Award under the Clinician Scientist Award to further his research in personalised therapy. Dr Yong leads the therapeutic arm (NUH module) of the Singapore Gastric Cancer Consortium. The consortium received the prestigious five-year Translational Clinical Research grant in 2007. He is also the Chairman of the National Healthcare Group Domain-Specific Ethics Review Board. His clinical interest is in gastrointestinal cancers and his research interests are pharmacogenetics and epigenetics in cancer.

Clinical Highlights

Liver Cancer

About the condition



Liver cancer is cancer that originates in the cells of the liver. The liver, an organ situated in the upper right portion of the abdomen, beneath the diaphragm and above the stomach, is one of the major organs responsible for removing toxins from the body. Liver cancer is common in Asian countries such as Hong Kong, Taiwan and Singapore.

Risk Factors

- Chronic carriers of Hepatitis B virus and Hepatitis C virus
- Those with liver cirrhosis
- Those with Hepatitis B or C related diseases
- Those with a bile duct disease called primary sclerosing cholangitis
- Alcohol abusers (alcohol abuse can lead to liver cirrhosis)

Signs & Symptoms

Early stage liver cancer may not produce any signs. As the cancer advances to a later stage, it may produce the following symptoms:

- Loss of appetite and weight
- Weakness and fatigue
- Nausea and vomiting
- Abdominal swelling/bloatedness
- Lump in the abdomen
- Abdominal pain
- Yellowish discoloration of the skin and whites of eyes (jaundice)

What are the treatment options?

There are different treatments available for liver cancer depending on the stage of the cancer as well as the health of the liver. Treatment options may include:

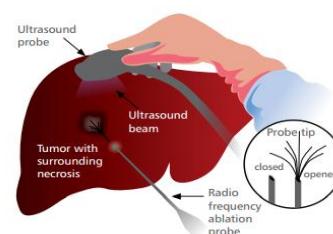
Surgery

Suitable patients may undergo liver resection which involves the surgical removal of the tumour and surrounding liver tissue from the liver. Patients with small tumours may also be suitable for a liver transplant.

Liver-Directed Therapies

Radiofrequency Ablation

Radiofrequency ablation is a procedure which destroys the tumour without removing the liver. High-energy beams travel down a thin metal probe that is inserted into the liver and through the tumour. Ultrasound is used to guide the probe into place and the heat that is emitted destroys the tumour.



Trans-Arterial Chemoembolisation

Chemotherapy is the use of anti-cancer drugs to destroy cancer cells or stop them from dividing. It may be administered as part of a treatment called chemoembolisation. Chemoembolisation involves the insertion of chemotherapy drugs directly into the tumour in the liver, together with a gel or tiny plastic beads to block blood flow to the cancer (embolisation). Embolisation prevents the tumour from growing as it is deprived of blood.

Selective Internal Radiation Therapy

Selective Internal Radiation Therapy is a technique that involves the use of many tiny beads in delivering extremely high dosages of radiation. The radiation travels directly to the tumour through the hepatic artery. This limits the amount of radiation that the normal tissue in the liver is exposed to.

Targeted Cancer Therapy

Targeted cancer therapy uses drugs or other substances that block the growth and spread of cancer by interfering with specific molecules involved in cancer growth and progression. A targeted drug called sorafenib may be used to treat patients with advanced liver cancer. Sorafenib targets cancers by stopping them from growing their own blood vessels. Sorafenib has been demonstrated to prolong survival in patients with advanced hepatocellular carcinoma, compared with supportive care alone. Sorafenib is an oral treatment and is usually taken twice a day.



GP Liaison Centre (GPLC)

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Visit us at http://www.nuh.com.sg/nuh_gplc/

Specialist in Focus

A/Prof Jimmy So



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A/Prof Jimmy So received his surgical training at the National University Hospital, Singapore. He was trained in Upper Gastrointestinal Surgery, Surgical Oncology, Bariatric Surgery, Therapeutic Endoscopy and Minimally Invasive Surgery.

He received fellowship training at the Massachusetts General Hospital, Harvard Medical School, USA. He was also appointed as a visiting consultant surgeon in Oesophageal and Gastric Surgery at the Royal Infirmary in Edinburgh, Scotland, UK. He established a multidisciplinary program for Oesophageal and Gastric cancers in NUH in 2005. He also received fellowship training in gastric and oesophageal cancer surgery in Japan, Korea and Hong Kong.

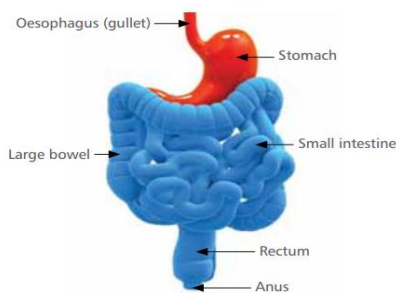
A/Prof Jimmy So's special interests are in gastroesophageal cancer and obesity. He has published more than 90-peer reviewed scientific papers and received many research grants for his research work on these topics. Presently, he is actively involved in the management of patients with gastric and oesophageal cancers, morbid obesity and other Upper GI disorders.

Clinical Updates

Stomach Cancer

About the condition

The stomach, located in the upper abdomen and is part of the digestive system, connects the oesophagus (gullet) with the small intestine. It acts as a food reservoir, mixes the food ingested and secretes liquid substances that aid digestion.



Stomach cancer usually occurs when cells in the inner layer of the stomach wall grow and divide without stopping. Over time, these cells will form lumps called tumours and the cancer may invade deeper into the stomach wall.

Risk Factors

- Family history of stomach cancer
- A history of Helicobacter Pylori infection
- A diet high in salty and smoked foods
- A diet low in fruits and vegetables
- Smoking

Signs & Symptoms

Early stomach cancer may not show any noticeable signs or symptoms.

Below are some symptoms of stomach cancer (although they may be caused by other conditions as well):

- Upper abdominal or 'gastric' pain (Dyspepsia)
- Frequent indigestion
- Black stool
- Nausea and vomiting
- Anaemia
- Loss of appetite and/or weight

What are the treatment options?

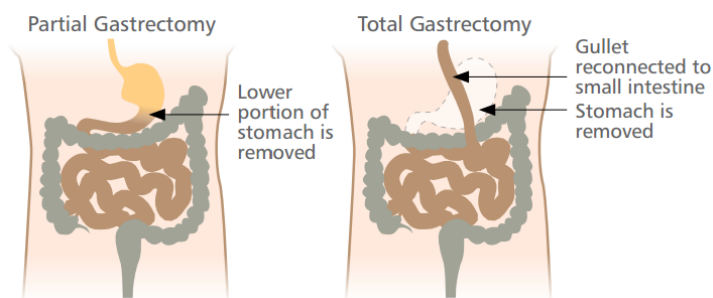
There are different treatments available for stomach cancer depending on the stage, the position of the cancer and one's overall health. The three main types of treatment include surgery, radiation and chemotherapy.

Surgery

Surgery is the most important treatment for stomach cancer in the early stages (where cancer is confined to the stomach). The most common treatment is called gastrectomy.

There are two types:

- **Partial Gastrectomy:** The removal of part of the stomach. The remaining portion of the stomach is then reconnected to the small intestine.
- **Total Gastrectomy:** The removal of the entire stomach. The intestine is then reconnected directly to the oesophagus. The lymph glands (nodes) close to the stomach will also be removed during the surgery to achieve the best outcomes.



If the cancer is too bulky to be removed, a connection can be made between the stomach and small intestine (gastrojejunostomy). This will relieve the symptoms but will not cure the cancer.

Food intake after Surgery

Digestion is mainly performed by our small intestine. The stomach is just a reservoir. Hence, patients can still live and eat normally after gastric surgery. However, appetite may be reduced after surgery. We recommend patients to have small and frequent meals after surgery. Nutritional advice will also be given.

Chemotherapy

Chemotherapy is the use of drugs to help kill cancer cells and shrink the size of the tumour. It can be given alone or combined with radiotherapy before or after surgery. It is also the choice of treatment if the patient is not suitable for surgery.



Shaping Medicine for the Future

CME Registration: <https://nuhcme.com.sg/>

News Updates

Singapore ranked world's No. 2 for health-care outcomes: EIU



Singapore has been ranked No. 2 in the world for health-care outcomes, according to a report by The Economist Intelligence Unit (EIU). The Republic followed closely after Japan. South Korea was placed third. The report "Health outcomes and cost: a 166-country comparison" assesses the efficiency of health-care systems globally, looking at value for money.

In a press release issued on Nov 26, the EIU described Singapore as having "a generous health-care system as well as high life expectancy, low rates of ill-health and low mortality". It said Singapore achieves similar outcomes to Japan, which was ranked first, but at a lower cost.

Japan scored well for both life expectancy and the overall health of its population, which can partly be attributed to healthy diets and active lifestyles, the report said. Government pressure on pricing for health services and pharmaceuticals mean that Japan also has an established long-term care insurance system, to which people must contribute from the age of 40.

Similarly, South Korea achieves comparable outcomes to Japan, but spends just over one-third the amount per head of population, the report said. The country has benefited from a universal health-care system since 1989 as well as a steady supply of low-cost health-care workers from elsewhere in the region. South Korea was also the first Asian country to introduce economic evaluation for drugs, while patient co-payments are high and often deter people from seeking care.

The report shows that there is a high - but not complete - correlation between health expenditure and outcomes, measuring the health status of the general population in the world's health-care systems. There comes a point where countries spend a great deal extra on care that benefits their citizens little, if at all.

"Asia has low-cost health-care systems that deliver impressive results, but as outcomes improve and expectations rise, so it gets harder and more expensive to maintain progress," said Ana Nicholls, author of the report. "It is important to view health-care spending not just as a cost but as an investment - and the emphasis should be on getting good value from that investment," she added.

The report also showed that countries in Asia, Europe and North America dominate the higher tiers, with health-care systems in the Middle East, the former Communist belt and Latin America occupying the middle. The lower three tiers are almost entirely made up of African countries, as well as some of the poorer Asian countries.

Source: *The Straits Times* (Published on 27 November 2014)

Procedure lets father give son new lease of life



Polytechnic student Mohamed Zarif Maarof was 18 when he found out he had kidney disease. That was in 2012.

"I was shocked, I used to run and play football so I thought I was healthy," he said.

The teenager had to give up evening outings with friends so he could be home by 8pm for his daily dialysis sessions. His sleep was often disrupted because he had to attach a tube to his stomach to allow for water dialysis throughout the night.

His father, Mr Mohamed Maarof Ghani, a supermarket branch manager, said: "It was no way for a teenager to live. He still has a bright future." The 49-year-old decided to donate a kidney to Zarif but their blood groups are incompatible.

However, thanks to a procedure called an ABO-incompatible transplant, Mr Maarof was able to donate a kidney to save his son in April. Zarif was 19 when the transplant was carried out at the National University Hospital (NUH), making him the youngest person in Singapore to have gone through this procedure. He is now 20.

A week before the transplant, Zarif had to be hooked up to a machine which got rid of certain anti-bodies in his blood. This helped reduce the risk of the new kidney being rejected, said Professor A. Vathsala, co-director of the National University Centre for Organ Transplantation at NUH. "Zarif was our youngest patient, so we were concerned that the rejection... could be particularly strong as younger patients usually have better immune systems," said Prof Vathsala.

The transplant went well but Zarif still had to be treated to suppress his immune system after the procedure to prevent rejection. NUH has done seven such transplants since 2009, including that for Zarif. Most ABO-incompatible transplants done locally have been successful. Doctors hope more patients can have ABO-incompatible transplants for a better quality of life.

There are more than 400 kidney-disease patients waiting for a new organ, although not all of them may be suitable for ABO-incompatible transplants, doctors say. Also, some do not want to attempt such transplants, fearing the higher risk of rejection. The chance of a patient rejecting organs from an ABO-incompatible transplant is 10 per cent, while it is 5 per cent for a normal transplant, said Dr Vathsala. "But if we pick up signs of rejection early, we can treat them," she added.

Patients might also have to be on life-long medication to suppress their immune systems, which may make them more susceptible to infections. But doctors try to prescribe drugs to counter this. It was money well spent for Mr Maarof, who said: "My son can go back to having a life, and that is priceless."

Source: *The Straits Times* (Published on 29 November 2014)



*Our Patients, Our Focus
Our People, Our Pride
Our Processes, Our Challenge*

Team studying way to modify cells to stop next heart attack



(From left) Dr Ching Jianhong, 32, and Dr Jean-Paul Kovalik (both from Duke-NUS) together with Dr Leonardo Pinto de Carvalho, 38, and Dr Mark Chan (both from National University Heart Centre, Singapore) use Duke-NUS' liquid chromatography-mass spectrometer (the blue machine) in their research on sphingolipids.

A GROUP of four researchers from two medical institutions here are working together to come up with personalised treatment for patients to have a better shot at life after their first heart attack.

They are doing so with a new understanding of the disease – attained by breaking down blood plasma and platelets – with a sleek, futuristic-looking machine that costs more than half a million dollars.

Instead of focusing on cholesterol, which has been widely studied as a cause of heart attack, the researchers are concentrating on sphingolipids, another type of molecule which is found in human blood.

By monitoring the levels of sphingolipids in patients who have suffered a heart attack, researchers can “pick up a signature to predict whether they will do well in a year’s time”, said Dr Jean-Paul Kovalik. “This is something we can’t predict with the standard clinical tests we have,” added the 42-year-old assistant professor at Duke-NUS Graduate Medical School.

So far, the usual method is to use medicine to try to prevent cells from signalling. For example, drugs that fight cancer block a cancerous cell’s ability to stimulate growth. But Dr Kovalik and his team use another method:

They want to stop heart attacks by getting into the cells and changing their biochemistry.

Dr Mark Chan, 41, a senior consultant with National University Heart Centre, Singapore, said: “Sphingolipids are special because they can potentially be a target for treatment. You can modify their levels and maybe improve a patient’s chance of survival.”

Altering sphingolipid levels require the help of liquid chromatography- mass spectrometry, an analysis technique done by a machine such as one purchased by Duke-NUS in May.

Only one microlitre of sample – smaller than a drop of blood from a finger prick – is needed to run an analysis that can be completed in under a minute.

The university charges \$75 to \$112.50 per analysis. Currently, researchers are about to conduct tests on animals.

In addition to heart attacks, the machine is also being used by other clinicians to study other diseases such as diabetes, dementia and degenerative eye conditions.

Their research, if successful, can bring about treatments that are specifically targeted to change a cell’s composition in less than a decade.

Dr Kovalik said: “If you think about a living organism, it’s basically a series of chemical reactions that are finely balanced and keeps everything running.” “In many types of different diseases, these chemical reactions become unbalanced,” he added.

Source: *The Straits Times* (Published on 28 October 2014)

Upcoming GP CME Events

Date	Topic
10 Jan	Sports Health Updates

Registration & Lunch will start at 12.30 PM

Event Venue:
NUHS Tower Block, Auditorium, Level 1
1E Kent Ridge Road, Singapore 119228

Please CALL us @ 6772 5695 / 5079 for registration & enquiries or visit our CME Portal @ <https://nuhcme.com.sg/>.