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Specialist in Focus



Dr Alfred Kow

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Dr Alfred Kow graduated from the Faculty of Medicine in NUS in 2002. He obtained his Master of Medicine (Surgery), Master of the Royal College of Surgeons of Edinburgh and Ireland diplomas in 2005 and subsequently, completed his advanced surgical training in Tan Tock Seng Hospital.

In 2009, he was qualified with the Fellowship of the Royal College of Surgeons of Edinburgh (General Surgery) in Hong Kong. He underwent a year of fellowship training in living donor liver transplantation (LDLT) and hepatobiliary & pancreatic surgical oncology in Samsung Medical Center & Samsung Cancer Center, Sungkyunkwan University School of Medicine in Seoul, South Korea.

Dr Kow has strong interest in liver transplantation (both deceased donor and living donor) as well as minimally invasive (laparoscopic) surgery for hepatobiliary and pancreatic conditions. He is actively developing the minimally invasive techniques to perform surgery in hepatobiliary such as laparoscopic pancreatectomy and hepatectomy.

In addition to his clinical practice, Dr Kow is involved in undergraduate medical education and post-graduate surgical training. He is currently the Assistant Dean of Education in Yong Loo Lin School of Medicine, NUS. He is actively involved in curriculum planning, revamping and implementation in the medical school. He is also the Undergraduate Medical Education Director for the Department of Surgery since June 2012. Dr Kow is also a core faculty member of the NUHS General Surgery Residency programme.

Clinical Highlights

Hepatocellular Carcinoma

Liver cancer (Hepatocellular Carcinoma) is fast becoming the second most common cancer mortality in the world. Many areas in the region are still endemic with chronic infections such as hepatitis B and C. In addition, non-alcoholic steatohepatitis (NASH) as a result of metabolic syndrome and obesity is also increasingly recognised as a cause of HCC and chronic liver cirrhosis.

There are a wide range of options for treatment of HCC. With curative intent, surgical resection, liver transplantation and possibly radiofrequency ablation (RFA) (tumour <3cm) may be considered. Surgical resection (open and laparoscopic) has also evolved to be a very safe option with careful selection of patients. In fact, selected patients may be suitable for Single Incision Laparoscopic Hepatectomy in NUH.

In addition, many patients can now consider liver transplantation as an option for excellent long term outcome. Advanced procedures like Living-Donor Liver Transplantation (LDLT) have now been shown to be a very feasible option for patients who need transplantation of the liver urgently. In National University Hospital, we have done the largest number of liver transplantation in Singapore and the region, with extremely good results.

In addition, other options aiming to help palliate the condition of HCC patients include transarterial chemoembolization (TACE), RFA, Selective Internal Radiation Therapy (SIRT), e.g. Yttrium-90 treatment and lastly, oral Sorafenib (Nexavar®).

Laparoscopic Pancreatectomy (Distal pancreatectomy and Whipple's operation)

Benign and premalignant lesions in the pancreas can be safely resected using laparoscopic methods in our centre. In addition, certain early tumours in the pancreas can also be resected using minimally invasive techniques. Studies have shown that open and laparoscopic resection of pancreatic malignancy has equivalent long term outcome with regard to oncological safety. Patients enjoy the benefit of less pain and early return of activities.



Fig 1: Resected right lobe of liver with HCC

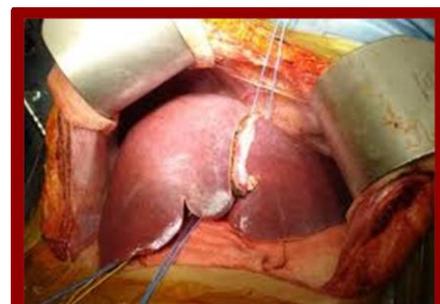


Fig 2: Picture showing process of liver resection of using open method



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Specialist in Focus



Dr Bettina Lieske

MD (Research, Germany), FRCS (UK), MA Clin Ed (UK)

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Division of Colorectal Surgery,
Department of Surgery,
National University Hospital (NUH).

Dr Bettina Lieske graduated from Friedrich Schiller University, Jena, Germany in 2000. Prior to commencing her surgical training in the United Kingdom (UK), she finished her doctoral research thesis and attained a research degree (Doctor Medicine) from Friedrich Schiller University in 2003.

She completed her basic surgical training and obtained the Membership of the Royal Surgeons of England (MRCS Eng) in 2005. She was then appointed for higher surgical training in the Oxford Deanery. After her final year of training in the Department of Colorectal Surgery at Oxford University Hospital, she was awarded the Fellowship of the Royal College of Surgeons of England (FRCS) in 2010 and Certificate of Completion of Training (CCT) in 2011.

Dr Bettina's interest is in laparoscopic surgery for benign and malignant colorectal conditions. She has recently spent some time at the Hampshire Hospital in Basingstoke, UK, where she familiarized herself with cyto-reductive surgery and heated intra-peritoneal chemotherapy, a treatment for advanced colorectal cancers and other malignancies affecting the peritoneum, such as pseudomyxoma peritonei and mesothelioma.

Clinical Updates

Colorectal Cancer

Colorectal cancer is the commonest cancer in Singapore. And even though screening is recommended from the age of 50 years old, either by colonoscopy or by faecal occult blood testing (Figure 1), a vast number of colorectal cancers in Singapore get diagnosed at a stage when the patient becomes symptomatic and presents with a change in bowel habit or bleeding per rectum.

Diagnosis of colorectal malignancy is by means of a colonoscopy with tissue biopsy and histology. The patient is then staged, usually by Computed Tomography of the thorax, abdomen and pelvis (Figure 2), and in cases of rectal cancer, an MRI scan of the rectum.

Surgery can be performed laparoscopic in the majority of cases, offering the advantage of smaller incisions, less pain, earlier return to normal function and shorter hospital stay. The Division of Colorectal Surgery in NUH practises enhanced recovery, with specifically developed pathways and interventions to aid patients' timely discharge from hospital.

For patients with advanced disease, surgery may be postponed until after the patient has received some chemotherapy. Especially for those patients where the cancer is locally advanced and has metastasised to the peritoneum, cyto-reductive surgery (CRS) and heated intraperitoneal chemotherapy (HIPEC) can offer the potential for curative resection in selected cases (Figure 3).

Because the extent of peritoneal involvement is difficult to diagnose on conventional imaging modalities, a diagnostic laparoscopy can be valuable, as the patient's peritoneal carcinomatosis index (PCI) can be more accurately assessed. The surgery itself can be extensive and apart from the resection of the colorectal tumour, it can involve neighbouring organs, as well as the peritoneal lining of the abdominal cavity. Once optimal cyto-reduction has been achieved, HIPEC is administered into the peritoneal cavity, where it stays for an hour, maintaining the temperature at 42°C. Post-operatively the patient will still receive conventional systemic adjuvant chemotherapy.

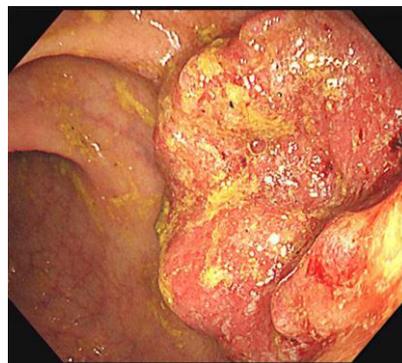


Figure 1: Rectal cancer in a 63 year-old patient presenting with a positive faecal occult blood test

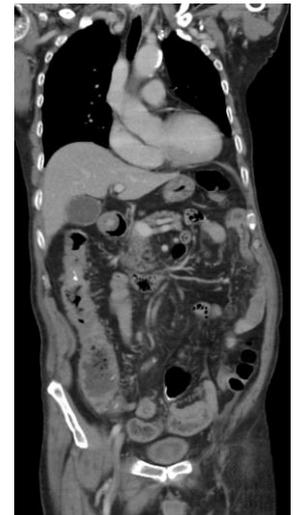


Figure 2: Staging CT of a 72 year-old patient with ascending colon cancer

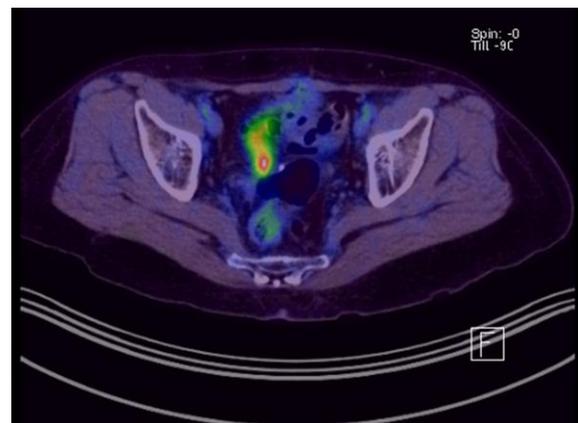


Figure 3: CT 7.5 peritoneal recurrence in a 64 year-old patient 3 years after anterior



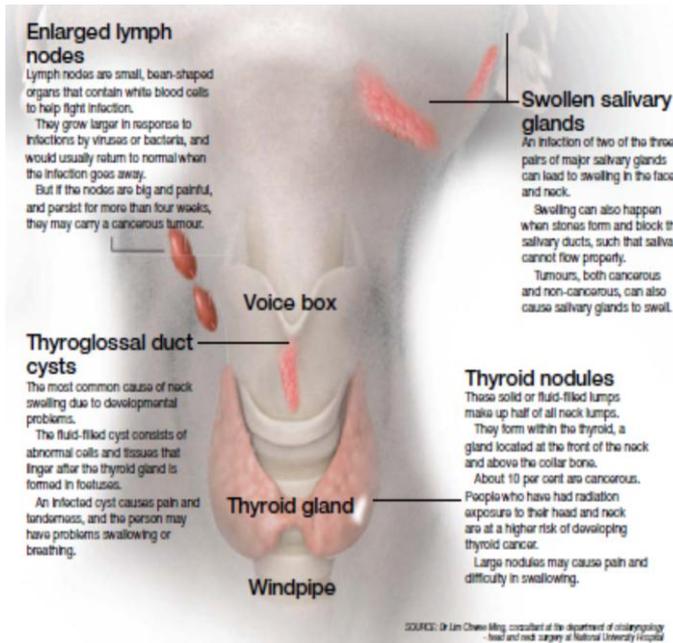
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News Updates

What's that lump in your neck?

Pathologists are roped in to perform biopsies on palpable lumps and provide diagnoses on the spot



For close to a week, senior administrator Fadzilah Said, 42, went about life with a heavy heart after she discovered a lump in the left side of her neck. The mother of three children, aged eight to 15, kept herself busy with work while counting down to her appointment at the National University Hospital (NUH), but sleeping at night was tough.

However, when the appointment rolled around last Wednesday, her suspense was over. She heaved a huge sigh of relief upon learning that the 1.8cm-wide thyroid nodule was benign (non-cancerous) and required monitoring only. Madam Fadzilah is one of several hundred patients at NUH who do not need to have their agony prolonged because of a change in workflow that cuts the time patients need to wait for biopsy results from days to a few hours. Abnormal lumps on the body are analysed by taking some cells from the lump through a fine needle. The cells are then examined under a microscope.

The outpatient procedure usually lasts no more than 15 minutes if the cells collected from one biopsy are sufficient for analysis. An ultrasound scan may be needed to help guide the biopsy if the lump cannot be felt easily by the doctor. Madam Fadzilah had a biopsy done at the Fine Needle Aspiration clinic, which opened in September 2013 at NUH Medical Centre. She heard the results from her ear, nose and throat surgeon an hour after a pathologist had done the biopsy. "If I was asked to wait another day, I would have died of anxiety," she said.

QUICK RESULT, QUICK ACTION

All biopsies involve taking a sample of cells which is then divided and processed in two different ways, one of which is a smear that is air-dried, stained and ready in under a minute. The other way is to submerge the cells in alcohol and then staining them, in what is called the alcohol-fixed smear. This method takes one to three days to be ready for analysis.

Dr Qasim Ahmed, a senior consultant at NUH's department of pathology, said the samples are prepared by a cytotechnologist after either the pathologist or another doctor has taken the biopsy. Before 2010, patients would have to wait till their next appointment, which can range from a few days to weeks later, to obtain the final results of the alcohol-fixed smear from their doctors.

These days, if pathologists perform the biopsy on patients and examine the air-dried smears under a microscope on the spot, patients are told what the lumps are on the same day, pending confirmation from the alcohol-fixed smear. A faster diagnosis does not make it less reliable, said Dr Nga Min En, a senior consultant at the department of pathology. A hospital audit showed that 97 per cent of the provisional reports matched the findings in their final reports.

No provisional report showed cancer when there was none present. But no cancer cases went undetected either. An early result brings about significant advantages. Doctors can initiate treatments more promptly and, if surgery is required, doctors can prepare the patient for it. Half of all lumps found in the neck are thyroid nodules, of which only 10 per cent are cancerous, said Dr Lim Chew Ming, a consultant at NUH's department of otolaryngology – head and neck surgery. So most patients should not worry unduly, he added. But, in the past, when a patient's final report showed that he had thyroid cancer, Dr Lim may phone the patient to break the news. Now, as soon as he gets the provisional report from the pathologist, he can tell the patient face-to-face and address any queries from them and their families.

Thyroid cancer is the ninth most common cancer in women here. It does not rank within the top 10 types of cancer for men. Last year, 22 per cent of all fine-needle aspiration procedures at NUH were carried out by pathologists, twice the 11 per cent in 2011. Even if doctors choose to perform the biopsy themselves, they can request the pathologist to churn out a provisional report that very day, said Dr Nga.

Pathologists can obtain more information to help narrow down the diagnosis if they personally perform the biopsy on patients, explained Dr Ahmed and Dr Nga.

"Being able to see the exact location of the lump in the neck and examine it first-hand provides additional diagnostic information to the pathologist," said Dr Nga. Pathologists will also know if they need to collect more cellular material from the patient for additional tests. Regardless of whether the fine-needle aspiration is done by a pathologist or other doctors, both private and subsidised patients pay between \$300 and \$500 at NUH. Obtaining a same-day provisional report costs an additional \$30.

Source: *The Straits Times* (Published on 14 May 2015).

Upcoming CME Events

Date	Topic
25 July	Spine Surgery GP Networking
22 Aug	Common Eye Diseases – Screening Techniques & Management (Part II)
22-23 Aug	4 th Wong Hock Boon Paediatric Masterclass

Registration & lunch will start at 12.30 pm

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

Please visit our CME Portal at <https://nuhcme.com.sg/> for registration. For enquiries you may contact the GP Liaison Centre at gp@nuhs.edu.sg