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Media Release

SGH combines new imaging technique with current diagnostic tests to enhance detection of prostate cancer

A new imaging technique, known as \(^{18}\text{F-Fluorocholine PET/CT}\), is now used in combination with current diagnostic tests to enhance detection and staging of prostate cancer.

To evaluate its accuracy and efficiency, doctors from the Departments of Nuclear Medicine & PET and Urology at the Singapore General Hospital (SGH) conducted a study using the new non-invasive technique for initial staging of prostate cancer in patients with medium or high risk of cancer spread. It was also used in the assessment of patients with suspected cancer recurrence. The new technique has since been introduced as a clinical service at SGH.

The technique uses PET/CT imaging with choline, a compound that detects areas that suggest the presence of cancer. Choline is injected into the patient’s vein minutes before scanning starts as it works only for a short time. Images of the prostate area will be taken, followed by a whole body scan from head to thigh to look for prostate cancer cells.

Since the new technique was introduced in August last year, close to 50 patients at SGH had undergone \(^{18}\text{F-Fluorocholine PET/CT}\) for prostate cancer, in addition to 21 patients who were involved in the study from February 2010 to March 2011.

“We have found that the scans show very good results in detecting areas with prostate cancer, and complements current existing techniques to give greater diagnostic accuracy. The technique is promising, and has been found to positively influence the treatment plans in several groups of patients with prostate cancer,” said Dr Andrew Tan, Associate Consultant, Department of Nuclear Medicine and PET, SGH.

Although \(^{18}\text{F-Fluorocholine PET/CT}\) is a non-invasive way of detecting the presence of cancer cells, results from a prostate biopsy remain the gold standard.

Diagnosis and Staging of Prostate Cancer

Prostate cancer can be detected with an examination of the prostate through the rectum and a blood test to look for elevated PSA levels. If the findings suggest the presence of cancer, a biopsy of the prostate is usually recommended. If cancer is
confirmed, the doctor will use results from the prostate examination and PSA level to evaluate the likelihood that the cancer has spread beyond the prostate. Patients with low risk may be excluded from further tests but those at higher risk may need further tests such as a bone scan, MRI or CT scan to look for possible cancer spread.

With the new imaging technique using \(^{18}\)F-Fluorocholine PET/CT, doctors are now able to detect areas that are affected by prostate cancer more accurately and determine the extent of the disease. This enhances the staging process, which will then determine the appropriate treatment to be given to the patient.

Patients who have undergone treatment for prostate cancer will continue to be monitored in case of cancer recurrence. If the PSA level changes, imaging tests such as MRI or \(^{18}\)F-Fluorocholine PET/CT will be used to find the cancer which may have returned.

Prostate cancer patients may or may not have any symptoms but some of the common symptoms include urinary problems, difficulty having an erection, frequent lower back, hips or upper thigh pain, or blood in the urine or semen.

The exact cause of prostate cancer is unknown but men with risk factors such as those over 55 years old, high animal fat and red meat diet, or men with family history of prostate cancer are more likely than others to develop the disease. However, most men who have risk factors never develop the disease.

Prostate cancer is the third most common cancer among Singapore men, with more than 500 new cases diagnosed every year. Even though the disease is seen mostly in those over 70 years of age, it can afflict men in their early 40s. Four in 100 prostate cancer patients die from this disease.

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