

Smoking is still the most common
cause By Dr Tay Miah Hiang

Lung cancer demystified

Lung cancer is one of the leading cancers in Singapore.

According to the latest report by the Singapore Cancer Registry, 3657 men and 1761 women were diagnosed with lung cancer in Singapore between 2001 and 2005, making this disease the second most common cancer after intestinal cancer among men and the third most common cancer after breast and colon cancer in women.

Smoking and lung cancer

The most common cause of lung cancer is smoking, which accounts for approximately 90 percent of the cancer occurrence among men and 70 percent of those among women. Smoking increases the risk of developing lung cancer by 15 to 25 times as compared to a non-smoker, while passive smoking increases the risk by about three to five times.

The risk of developing lung cancer is proportional to the number of cigarettes smoked per day and the duration of smoking. Smoking cessation will lower the risk of getting lung cancer, but even after a smoker has stopped smoking for 10 to 15 years, his or her risk will remain at least two times higher than a person who has never smoked. 10 to 30 percent of lung cancer patients are non-smokers, especially for women.

Other causes of lung cancer

Another less common cause of lung cancer would include previous exposure to substances like asbestos, coal and arsenic. Early detection offers the best chance of a cure for any cancer. Unfortunately, patients with lung cancer in the early stages usually do not have any symptoms and this could be a possible explanation for their late presentation. Most lung cancer patients are diagnosed in stage three or four,

when the chance of a cure is low. Symptoms of lung cancer would include a persistent cough, blood in phlegm, weight loss or shortness of breath and all these symptoms would warrant medical attention.

Lung cancer can be broadly classified into non-small cell (NSCLC) lung cancer and small cell (SCLC) lung cancer. Most lung cancer patients have non-small cell lung cancer which tends to be less aggressive than SCLC. The chance of a cure depends on the stage of the cancer and the treatment options available.

In general, NSCLC can be classified as early stage when it is stage one or two, locally advanced when it is stage three and advanced or metastatic when it is stage four.

For SCLC, it is classified into the 'limited' stage, which is potentially curable, or 'advanced' stage when a cure is most unlikely. The type of treatment is therefore dependent on the type of cancer, its stage and the fitness level of the patient who is undergoing treatment. During the treatment of lung cancer, the doctor's intent is either to cure the patient or to aid in palliation.

For patients with NSCLC, a cure may be achieved if the tumour can be completely resected, or in situations when surgery is not possible, if it can be treated with radiotherapy. In SCLC, a cure may be achieved if the cancer is diagnosed at the 'limited' stage and treated with a combination of chemotherapy and radiotherapy. In patients who have undergone successful treatment, there is still a risk of disease recurrence. Recurrence usually occurs within the first two to three years and is unlikely to happen after five years. An additional four to six months of chemotherapy after completion of treatment may reduce the risk of recurrence by an additional 10-40%. This

is known as adjuvant chemotherapy and is usually recommended for most patients, except for those with a contraindication to chemotherapy or with stage one NSCLC which has a lower risk of recurrence that is not improved with chemotherapy. In patients with limited stage SCLC, adjuvant radiotherapy to the brain is advocated as recurrence is usually first detected in the brain.

Advanced stages

When cancer has progressed to the advanced stages or has recurred after previous treatment, a cure is no longer possible. The aim of treatment at this point would be palliation to reduce a patient's discomfort and prolong survival. The three main modes of palliative treatment would include surgery, radiotherapy and chemotherapy. In the last few years, innovative treatments have been developed to arrest cancer growth or complement chemotherapy when given together due to non-overlapping side-effects. These drugs would include gefitinib (Iressa™), erlotinib (Tarceva™) and cetuximab (Erbix™) which arrest tumour growth by blocking an enzyme that promotes its growth. These drugs are particularly effective in lung cancer patients who are Asian, female and non-smokers. They are usually prescribed for patients who have failed previous chemotherapy, are unsuitable for chemotherapy or choose not to have it. Bevacizumab (Avastin™) is another drug that can be prescribed in combination with chemotherapy and has been shown to be effective in controlling cancer growth and prolonging survival.

Although these novel treatments may offer patients more options in addition to the standard treatment of chemotherapy, they are expensive and it is important to discuss the financial implications with patients and their family when discussing the choice of treatment options.

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