



養和醫院

HONG KONG SANATORIUM & HOSPITAL

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HKSH Respiratory Medicine Centre Offers State-of-the-art Chest Diseases Prevention, Diagnosis and Treatment

(25 February 2010, Hong Kong) Lung cancer, pneumonia and COPD (Chronic Obstructive Pulmonary Disease) are common chest diseases in Hong Kong. In the five leading causes of mortality, they account for three. Appropriate management of chest diseases depends on correct diagnosis. Although many diseases can be diagnosed with certainty based on history, physical examination, imaging or microbiology, challenges in diagnosis still exist in some of the chest diseases. For example, early detection of lung cancer, the nature of lung shadow, diagnosis of mediastinum lesion, the cause of exudative pleural effusion and so on. To overcome these challenges, Hong Kong Sanatorium & Hospital (HKSH) has recently imported new investigational instruments and established the Respiratory Medicine Centre with an aim to provide patients with “one-stop chest diseases diagnosis and treatment”. This also makes HKSH the only hospital in Hong Kong that is equipped with all state-of-the-art diagnostic tools for chest diseases. The new instruments include:



1. **Autofluorescence Bronchoscopy: The answer to detecting early central airway cancer**

Early central airway cancers are very difficult to be detected due to the small size. By utilizing the difference in fluorescence intensity between normal tissue and cancer, autofluorescence bronchoscopy not only increases the diagnostic yield of early lung cancer, but is also capable of detecting precancerous lesion.



2. Virtual Bronchoscopy + Thin Bronchoscope + Endobronchial Ultrasound and Guide Sheath: Simple and easy way to identify the nature of lung shadow

When imaging test showed the presence of lung shadow, the next step is to confirm the nature of the shadow by tissue diagnosis. Transbronchial biopsy is a simple and safe way to get tissue for diagnosis. The yield of transbronchial biopsy ranged from 20-80% depends on the site and size of the lesion. By using a virtual bronchoscopy programme, the path to the lesion during bronchoscopy can be determined before the procedure.

This shortens the time for procedure and also increases the diagnostic yield. Together with thin bronchoscope (can go nearer to the lesion) and endobronchial ultrasound and guide sheath (can confirm the lesion has been reached), the diagnostic yield can be increased to 70-80%.

3. Sputum Cell DNA: A practical way of assessing lung cancer risk

With the availability of higher resolution CT, many people were found to have small lung shadow (a few millimeters in diameter). Due to the small size, it is not practical to have tissue diagnosis. These lesions will be classified as scar if no change in size after 3 years of CT monitoring. Although majority of the lesions are benign, this will still lead to stress before these lesions are confirmed to be scar. Sputum cell DNA analysis is a test developed by British Columbia Cancer Agency (BCCA). By analyzing the DNA of the bronchial cells, the computer controlled microscope will generate a score indicating the risk of lung cancer. A study done by BCCA showed that 95% of the lung cancer in high risk population can be identified by the test. Lung cancer high risk population included: current/ex-smoker, close relative has lung cancer, people with history of lung cancer/head & neck cancer, people with COPD, people with silicosis, people with chronic lung diseases.

4. Endobronchial Ultrasound Guided Transbronchial Needle Aspiration (EBUS-TBNA): Minimally invasive with high diagnostic yield

Mediastinum lesion is always a challenge for diagnosis. The commonest lesion in mediastinum is enlarged lymphnodes. The only way to judge whether the enlargement is due to disease invasion or reactive change is by tissue diagnosis. Conventional TBNA via bronchoscope has a diagnostic yield of ~60%. Mediastinoscopy has a high diagnostic yield but is invasive and must be performed under general anesthesia. EBUS-TBNA is a mini-invasive procedure (like conventional bronchoscope) but diagnostic yield comparable to that of mediastinoscopy.



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5. Pleuroscopy: Identify the cause of exudative pleural effusion

Exudative pleural effusion indicates pleural pathology, and the conventional way to identify the underlying cause is by diagnostic chest tapping and closed pleural biopsy. The combination of the two has a diagnostic yield of 60-70%. The newly developed semi-rigid pleuroscopy has a diagnostic yield of >90% yet not more invasive than closed pleural biopsy.

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