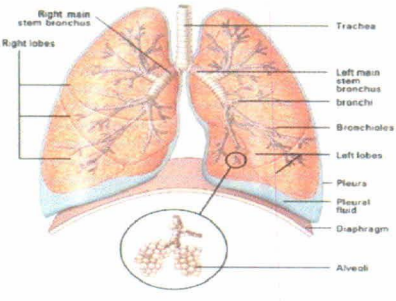
SAIFEE HOSPITAL

under the auspices of Saifee Hospital Trust Reg. No. E-5448 (Bom)

DEPARTMENT OF NUCLEAR MEDICINE

Ventilation/ Perfusion Imaging of the Lungs (VQ Scan) Imaging Patient Information



Using nuclear medicine to look for lung abnormalities

Ventilation and perfusion lung scan has played a critical role in the detection of potentially life threatening pulmonary emboli (a blood clot which travels to the lung),

What is a Ventilation/ Perfusion lung scan?

The lung scan includes two scanning components, perfusion and ventilation. The perfusion scan involves IV injection of a radioactive tracer, which flows to the small vessels of the lungs and enables imaging of the distribution of blood supply to the lungs. The ventilation scan involves inhalation of a radioactive aerosol compound, which enables measurement and imaging of the exchange of air within the bronchi and the trachea. The results of the two scanning components are then compared.

Who is it for?

The ventilation perfusion lung scan (also known as a VQ scan) is a method for detecting blood clots in the lungs. Blood clots (thrombi) can form in the veins of the legs (or other parts of the body) and then travel to and lodge in the lungs causing such symptoms as shortness of breath and chest pain. This is a potentially very serious problem.

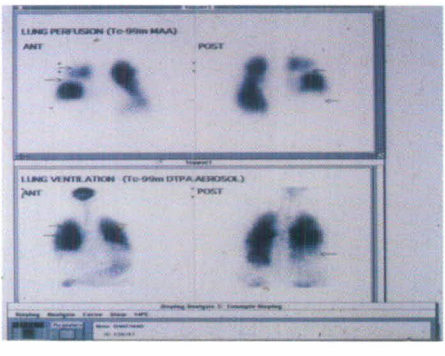
Patients with pulmonary embolism, as a result of a blocked artery and no other underlying disease, will demonstrate decreased (defective) blood flow (perfusion) to an area, however ventilation (air exchange to the lungs) will be normal. Persons with other lung disease, such as emphysema, will demonstrate matched abnormalities in both perfusion and ventilation. The key to diagnosis of pulmonary embolism is unmatched results between perfusion and ventilation

HOW DO YOU PREPARE?

About one hour before the test, a technician places an IV in your arm. Tc-99m macroaggregated albumin is injected through the IV to identify areas of the lung that have reduced blood flow

HOW IS IT DONE?

The ventilation and perfusion scans are usually performed more or less simultaneously. The average examination time is between 15- 20 minutes and can be done on an outpatient basis. The patient arrives in the department for radionuclide scanning called the Nuclear Medicine Department. The patient is asked to lie on a couch and a small needle is inserted into a vein. There is then a small injection of a radioactive substance which is attached to albumin (a normal protein which circulates in the blood). The patient then sits up in front of a gamma camera which acquires the information to produce the perfusion lung scan (see Radionuclide scans). After images of the lung have been acquired from several different views then the ventilation scans are performed from the same projections. During the ventilation scan a different radioactive substance is inhaled by mask and images acquired. The two sets of images are then compared.



AFTER THE TEST

Once inside your body, the tracers don't remain active for long. The radioactivity disappears within one to three days.

You should feel no side effects after the procedure, and no aftercare is necessary. If you're breast-feeding, your doctor might ask you to stop for 24 hours after the tracer injection.

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