

PRESS RELEASE

Nuclear medicine often delivers better results

(Vienna, 4 March 2010) Nuclear medicine procedures are firmly established in modern medicine, providing accurate diagnosis for cardiac or other organ diseases, cancer, rheumatism, bone diseases, or for the investigation of the central nervous system. They are frequently used to supplement the range of existing diagnostic or treatment options and provide an additional method of imaging. In many cases they even precede conventional methods.

Some examples from the European Association of Nuclear Medicine (EANM):

- **Cancer diagnosis:** A whole body scan using positron emission tomography (PET) provides information about the extent of the tumour and its metastases in the initial diagnosis of many cancers. For example, decision making prior to surgery of lung carcinomas without PET is no longer state of the art. So-called neuroendocrine tumours, which mainly occur in the gastrointestinal tract but are also found in the pancreas or lungs, can also be imaged with special scintigrams such as the somatostatin receptor scintigram (SRS), as well as with PET. Usually, neuroendocrine tumours are often only detected by their size or because metastasis has occurred. However, diagnosis at an early stage using nuclear medicine procedures enables more successful treatment to be carried out. Nuclear medicine procedures (radioisotope therapy) can also be used for the treatment of neuroendocrine tumours.
- **Monitoring the success of the treatment:** A PET examination establishes whether chemotherapy or radiation therapy has had the desired effect on cancer patients. The aim of cytotoxins and radiation is to suppress the metabolism in the tumour and to kill the tumour or the metastatic cancer. PET makes this metabolism visible. After a radioactive substance has been administered which accumulates in the tumour, a special PET scan carried out shortly after the start of therapy may show whether the metabolic rate in the cell is falling. If this is not the case, the tumour will not respond to the therapy and the therapy, which is causing a strain on the patient, can be corrected at an early stage. This makes an important contribution to developing a cancer therapy geared to the needs of the individual patient.
- **Alzheimer's and Parkinson's disease:** Diseases of the brain such as Alzheimer's and Parkinson's disease can be diagnosed at an early stage using the nuclear medicine cross sectional imaging procedure PET or SPECT (single photon emission computed tomography). The first signs of these diseases can be detected in patients at high risk because of their hereditary disposition before any clinically relevant symptoms occur. The advantage of this is that treatment with drugs, which offers prospects of success particularly in the early stages of the disease, can begin quickly in order to delay the progression of the disease for a long period.

- **Heart diseases:** A nuclear medicine examination of the heart, the so-called myocardial scintigraphy, enables myocardial perfusion to be measured exactly, making it possible to assess very accurately the risk to the patient of complications such as a myocardial infarction. In this procedure, a mildly radioactive isotope is injected into the patient's bloodstream and the perfusion recorded with a special camera. This shows which parts of the myocardium are not being adequately supplied with blood. After a myocardial infarction, it can be established by using the scintigraphy whether tissue that has not been perfused has already died or is just "hibernating". In such a case, the patient would benefit from a treatment promoting perfusion, for example a bypass operation.

Press contact:

impressum health & science communication

Robin Jeganathan

Adenauerallee 10, 20097 Hamburg, Germany

Email: jeganathan@impressum.de

Tel: +49 40 – 31 78 64 10, Fax: +49 40 – 31 78 64 64