

International Conference on

Nuclear Medicine & Radiation Therapy

July 14-15, 2016 Cologne, Germany

The role of nuclear medicine in cases of bone affection

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Nuclear medicine is a sensitive method for detecting bone lesions at an earlier phase. It can also reveal a much more extensive involvement of the skeleton, studying the whole body with minor radiation exposure to patient, which has especial interest in children examination, and be useful in the diagnosis of complications such as fractures and osteomyelitis. The role of imaging is fundamental in cases of bone affection. Nuclear medicine may be helpful when the radiographic imaging is not typical and in complicated forms of diseases that courses with fractures and osteomyelitis. It also provides an important contribution as being the first diagnostic approach, especially in asymptomatic patients, supporting diagnosis. Nuclear medicine might also be used for extensive skeletal evaluation, since X-ray of all bone should be avoided and because metabolically active lesions are more apt to cause symptoms. It also contributes to the follow-up of the patients, allowing longitudinal monitoring of the disease since new asymptomatic bone fracture may be diagnosed and even its recurrence where no radiographic change is shown. Thus, serial whole-body scans may be useful both in symptomatic and even in asymptomatic patients.

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Association between cardiovascular medications and survival outcomes among patients with stage III non-small-cell lung cancer after definitive radiotherapy

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Preclinical and epidemiologic studies suggest that receipt of cardiac and anti-hypertensive medications such as angiotensin-converting enzyme inhibitors (ACEIs), angiotensin receptor blockers (ARBs), β -blockers, or aspirin may have antiproliferative effects in several types of cancer. We have performed a series of studies aiming at estimating survival outcomes in patients receiving incidental cardiovascular medications during treatment for lung cancer, and to compare outcomes with those patients not receiving these medications. The retrospective study was approved by our institutional review board and informed consents were waived. The study included 673 patients who had received definitive radiotherapy for stage III non-small-cell lung cancer (NSCLC) at our department. Cox proportional hazard models were used to assess associations between receipt of ACEIs, ARBs, β -blockers, or aspirin and locoregional progression-free survival (LRPFS), distant metastasis-free survival (DMFS), disease-free survival (DFS), and overall survival (OS). Multivariate analyses showed that ACEI receipt was associated with poorer LRPFS but had no effect on DMFS, DFS, or OS. Aspirin receipt was associated only with improved DMFS, and β -blocker receipt was associated with improved DMFS, DFS, and OS. Incidental receipt of ACEIs was associated with a higher prevalence of local failure, whereas receipt of either β -blockers or aspirin had protective effects on survival outcomes in this large group of patients with lung cancer. This finding warrants further clinical and preclinical exploration, as it may have important implications for treating patients with lung cancer who are also receiving cardiac medications.

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