Hodgkin's lymphoma (HL) is strongly associated with tumor proliferative activity and viability. We speculated that different patterns of 99mTc-MIBI and 67-Ga uptake can reflect possible chemoresistance of NSCLC and HL.
Material & Methods: Simultaneous scintigraphy with 67-Ga and 99mTc-MIBI was performed in 90 patients with HL and NSCLC. Whole body visualization and computer emission tomography was performed during single examination. Acquisition started 48−74 hr after i/v injection of 130–175 MBq 67-Ga and immediately after i/v injection of 500–740 MBq of 99mTc-MIBI. All images for each agent were classified as positive and negative. Tumor uptake was graded as 0 (normal uptake), + (hyper fixation seen only on SPECT), ++ (moderately increased uptake), +++ (prominent hyper fixation).
Results: Dual isotope scintigraphy was positive in 41 of 90 evaluated patients. In this group we revealed 3 main patterns of 99mTc-MIBI and 67-Ga uptake. The first – characterized by active tumor uptake of both agents: this pattern determined in 12 (29%) of 41 patients with positive lesions.
The second – manifested by active accumulation of 99mTc-MIBI and negative (grade 0) or reduced 67-Ga uptake. In 5 cases (12%) 99mTc-MIBI uptake in the tumor was increased and scintigraphy with 67-Ga didn't reveal abnormality. In another 6 cases (15%) 99mTc-MIBI revealed more lesions and/or grade of 99mTc-MIBI uptake was higher than accumulation of 67-Ga. Most of patients (9/11) in the second group had NSCLC.
Third pattern characterized by intense pathologic uptake of 67 Ga with normal or only slightly increased (+) accumulation of 99mTc-MIBI. In this group 7 (17%) patients had tumors which were visualized only with 67-Ga. In 11 cases (27%) scintigraphy with 67-Ga revealed more lesions and/or uptake of 67-Ga was more intensive than accumulation of 99mTc-MIBI. We propose that the third pattern represent the group of patients with high risk of tumor chemoresistance and unfavorable prognosis. But this speculation needs further confirmation during follow-up
Conclusion: Active accumulation of 67-Ga with normal or slightly increased uptake of 99mTc-MIBI in the tumors revealed in 44% of evaluated patients with HD or NSCLC. This pattern can reflect increased probability of tumor chemoresistance.

2117 POSTER

The efficacy of Tc-99m MIBI for sentinel node mapping in breast carcinoma: comparison with Tc-99m antimony sulfide colloid

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Background: Sentinel lymph node (SLN) biopsy has become the standard for axillary lymph node staging in breast cancer. To date, several randomized trials (1−5) have confirmed that SLN biopsy is feasible, accurate and safe staging technique with minimal morbidity. We studied the value of peri-areolar intra-dermal injection of Tc-99m sestamibi (MIBI) for sentinel node mapping in breast carcinoma.
Material and Method: 50 patients with early-stage breast cancer were included in our study. 17.5 MBq Tc-99m-MIBI was injected intra-dermaly to 25 patients and the remainders were injected with the same dose of Tc-99m-Antimony sulfide colloid. Anterior and lateral static images were taken at 2 minutes. If sentinel lymph node was not detected, delayed imaging up to 180 minutes was done. The patients were operated on, 2−4 hours post-injection. Sentinel lymph node biopsy was performed by the aid of gamma probe and blue dye during surgery.
Results: In the Tc-99m-MIBI group 23 patients had lymph nodes on scintigraphy images. Sentinel node was detected at surgery in all 23. In the Tc-99m-antimony sulfide colloid group 24 patients had lymph nodes on scintigraphy images. Sentinel node was identified at surgery in 24 patients.
Conclusion: We conclude that 99mTc-MIBI is a suitable radiopharmaceutical for sentinel node detection.

2118 POSTER

Accuracy of TransRectal UltraSonography (TRUS) in the preoperative staging of rectal lesions suitable for Transanal Endoscopic Microsurgery (TEM)

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Background: Transanal Endoscopic Microsurgery (TEM) is performed in patients with premalignant or, in selected cases, stage T1 rectal lesions. Transrectal ultrasonography (TRUS) seems to be an important diagnostic tool in the preoperative staging of rectal lesions, assessing whether the lesions are suitable for TEM. The aim of this study was to analyse the accuracy of TRUS in distinguishing between rectal lesions requiring local (TEM) or more radical excision (TME = total mesorectal excision).
Materials and Methods: From January 2006 until June 2008 thirty-six consecutive patients with rectal lesions were included. All patients underwent TRUS, using an endorectal probe to asses the T-stage in rectal lesions. Following TRUS and/or additional imaging, patients underwent surgery. Preoperative TRUS staging was correlated to postoperative pathology.
Results: In 30 patients TRUS was conclusive. Postoperative pathological findings confirmed the preoperative TRUS findings in 29 patients; in 1 patient, a T3 staged tumour was an overstaged benign lesion also biopsied as a Tubulovillous Adenoma (TVA). No understaging occurred. The accuracy level in the conclusive TRUS group was 97% (29/30).
In 6 patients TRUS was not conclusive; in 5 of these patients MRI was performed showing no tumour invasion in all 5 patients, confirmed by pathological findings.
Proper TRUS interpretation was possible in 83% (30/36). Overall accuracy of TRUS was 80% (29/36). However, accuracy in the conclusive group was 97%.
Conclusion: TRUS is an accurate diagnostic tool in distinguishing rectal lesions suitable for TEM from the lesions invading the muscularis propria needing more radical surgery. If TRUS is inconclusive or high stage rectal lesions ($\geqslant$T2) are shown on TRUS, additional imaging (MRI) should be performed.

2119 POSTER

Delay in implementation of international guidelines forcomputed tomographies with iodinated contrast media

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Background: This study was conducted to determine the degree to which the clinical practice concerning computed tomographies (CTs) with iodinated contrast media in patients with lung cancer was in accordance with European Society of Urogenital Radiology (ESUR)'s international guidelines.
Methods: Lung cancer is treatable with platinum-based cytostatic drugs, which can be nephrotoxic. According to the ESUR's guidelines this adds to the risk of developing contrast- induced nephropathy.
Before CT with iodinated contrast media ESUR's international guidelines recommend evaluation of the patient's risk factors. The guidelines also recommend measurement of S-creatinine 7 days or less before CT scanning risk patients.
This stydy is a retrospective study of lung cancer patients at Hillerød Hospital, Denmark. Inclusion criteria: Patients in current treatment with platinum-based cytostatic drugs up to and including September 20th, 2006, who had undergone an elective CT with iodinated contrast media. A total of 51 patients where included. P-creatinine and other potential risk factors for development of contrast- induced nephropathy were collected.
The following data was registered; age, gender, cancer diagnosis, renal disease, diabetes mellitus, hypertension, congestive heart disease, P-creatinine, type, volume and time for cytostatic treatment. Time for the first CT performed after the initiative treatment with platinum-based cytostatic drugs, and whether they had need for nephrologic assistance.
The study has not registered whether the patients where dehydrated or were given other nephrotoxic drugs beside NSAID and platinium based cytostatics. It was not registered when a NSAID drug was taken before CT.
Results: In 31.4% of the patients included, P-creatinine was measured no earlier than seven days prior to their CT. All the patients had S-creatinine measured with in 6 months prior to CT.43.1% of the patients included had received a platinum-based cytostatic drug after the latest measurement of their P-creatinine prior to their CT scan. 45.1% of the patients been received a platinum-based cytostatic 14 days or less before CT scan. 66.7% had additional risk factors. None needed nephrologic assistance.
Conclusions: Significant deviations were found between the clinical practice and the international guidelines covering prevention of contrast-induced nephropathy. This study has led to changes in the guidelines and clinical practice regarding contrast- induced nephropathy at Hillerød Hosipital. Now all elective patients have P-creatinine measured no more than seven days prior to CT with iodinated contrast media.
This study is an example of the delay in implementation of science based preventive methods into clinical practices.