DETECTION OF SILENT MYOCARDIAL ISCHEMIA IN CHILDREN WITH FAMILIAL HYPERLIPIDEMIA BY GATED MYOCARDIAL PERFUSION SCINTIGRAPHY

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Aim: Familial hyperlipidemia (FH) is a genetic disease characterized by elevated serum levels of total cholesterol and low-density lipoprotein (LDL) which results in a markedly increased incidence of arteriosclerosis and coronary artery disease in homozygotes. These changes are seen to a lesser extent in dyslipidemic pediatric patients as well. The purpose of this study was to detect silent myocardial ischemia with Tc-99m MIBI G12 gated single photon emission computed tomography myocardial perfusion scintigraphy (MPS) in patients with FH and correlate the scan results with clinical variables.

Material and methods: Six asymptomatic dyslipidemic (8 to 17 years) and 13 homozygotes FH (7 to 17 years) patients were evaluated with clinical assessment, blood lipid measurement and stress Tc-99m MIBI MPS. Results: Five homozygotes FH patients had abnormal MPS. Ischemia was present in 4 patients and one child had myocardial wall dyskinesia. The coronary angiography of 5 homozygote patients who had an abnormal MPS demonstrated > 50% stenosis in their coronary arteries. Cardiac surgery was then performed in 4 and aggressive repetitive percutaneous interventions were instituted in 1 patient. The MPS of 6 dyslipidemic patients were normal. The mean ± SD values of total cholesterol and LDL levels in homozygotes with abnormal scars were 206 ± 55 mg/dl and 576 ± 55, respectively. The same measurements were 149 ± 49 mg/dl and 480 ± 168 mg/dl in homozygotes with normal MPS. No significant difference was observed in total cholesterol and LDL levels in patients with or without myocardial ischemia (p = 0.35). However mean total cholesterol (252 ± 44 mg/dl) and LDL (181 ± 46 mg/dl) levels were significantly lower in dislipidemic patients than homozygote patients with or without myocardial ischemia (p < 0.004 and 0.017, respectively).

Conclusions: We conclude that in patients with homozygote FH, stress induced silent myocardial ischemia can occur at a young age and that MPS should be performed early as a screening test which can be used to guide patient management. In our study plasma lipid levels were not diagnostic.

EVALUATION OF CARDIAC COMPLICATIONS WITH TC-99M TETROfosMIN GATED MYOCARDIAL PERFUSION SCINTIGRAPHY IN PATIENTS WITH THALASSEMAIA MAJOR

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Aim: Iron overload limits the life expectancy in thalassemic patients by causing cardiac toxicity. Iron also plays a catalytic role in the pathogenesis of arteriosclerosis. The aim of this study is to evaluate the role of Tc-99m Tetrofosmin gated myocardial perfusion study (GMPS) to detect cardiac dysfunction in patients with thalassemia major.

Material and methods: 42 patients with corona ries ischemia were enrolled to the study. Myocardial perfusion and wall motion were analysed in all patients aged 17 ± 5.28 and 34 age-matched controls with GMPS. Clinical data, liver function tests, hemoglobin, ferritin, (low density lipoprotein) LDL and cholesterol levels, total transfusion number with frequency were collected from the charts of the patients.

Results: 97.6% and 78.5% of patients had normal myocardial perfusion and wall motion respectively. 9 of 42 thalassemic patients had abnormal left ventricular wall motion. Half of those had septal hypokinesia. No significant correlation was found between total transfusion number, serum ferritin levels, liver function test and left ventricular function (Table 1). Echocardiography revealed systolic dysfunction in 9 patients with wall motion abnormality. In all patients, LDL and cholesterol levels were within normal limits.

Conclusions: Regional wall motion abnormalities can be seen in patients with thalassemia major. This early damage is frequently located in the septum and can be detected by GMPS. Serum ferritin level, number of blood transfusions are inadequate as predictors of myocardial dysfunction.

Table 1. Distribution of thalassemic patients with and without wall motion abnormality.

Parameter | Wall motion abnormality (n = 9) | Normal wall motion (n = 33) | p
--- | --- | --- | ---
Age (mean) | 19.7 | 17.1 | 0.077
Sex, M/F | 8/1 | 17/16 | 0.024
Ferritin < 2000/2000 ng/ml | 5/4 | 17/16 | 1.00
Total transfections > 2000 | 2/7 | 14/19 | 0.44
ALT < 40 x UL | 5/4 | 22/11 | 0.988
AST < 30 x UL | 7/26 | 13/13 | 1.00

The ROLE OF THYROID SCINTIGRAPHY IN HASHIMOTO THYROIDITIS: COMPARISON WITH CLINICAL AND ULTRASONOGRAPHIC FINDINGS

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Aim: To evaluate various stages of Hashimoto thyroiditis (HT) with ultrasonograph- ic and scintigraphic findings.

Material and methods: Forty-six patients (14 M/32 F) with HT were included in the study. The mean age of the patients was 39 yr (range, 14-73 yr). Thyroid scintigraphy was performed with Tc-99m pertechnetate and serum TSH, free T4, free T3, thyroid peroxidase antibody (TPO Abs), TSH receptor antibody levels were obtained in all patients. Ultrasonography was available in 41 patients (48%).

Results: Thyroid TPOAbs were elevated in 86 (100%) and TSH receptor antibodies were elevated in 29 (33%) patients. USG revealed diffuse hyperplasia, multinodular goiter and solitary nodule in 16 (39%), 21 (51%) and 4 (10%) patients respectively. In Hashimoto disease, variable scintigraphic appearances were also seen, 9%, 35%, 42%, 5%, and 9% of patients had normal scan, diffuse hyperplasia, multinodular gland, solitary nodule, and suppressed glands respectively. Scintigraphic findings were not correlated with TPOAbs levels (p > 0.05). A significantly higher prevalence of hyperthyroidism was observed in patients with diffuse goiter in comparison with those with multinodular gland (63% vs. 22%). The relation between scan findings and clinical presentation is shown on Table 1.

Conclusions: The scintigraphic findings in HT are highly variable and can mimic a wide range of thyroid disorders. Our data suggest that diffuse radiopharmaceutical uptake among hyperthyroid patients is suggestive of Graves disease or Hashitoxicosis. In early stage Hashimono disease TSH stimulation results in increased radioactive activity throughout the thyroid. Consequently, as more thyroid parenchyma is replaced by fibrous tissue, a multinodular goiter develops.

Clinical examination

<table>
<thead>
<tr>
<th></th>
<th>After pPCI</th>
<th>Before pPCI</th>
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<tbody>
<tr>
<td>Multinodular</td>
<td>3 (10%)</td>
<td>10 (30%)</td>
</tr>
<tr>
<td>Diffuse hyperplasia</td>
<td>1 (3%)</td>
<td>3 (10%)</td>
</tr>
<tr>
<td>Suppressed gland</td>
<td></td>
<td>2 (6%)</td>
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Total: 40 (47%) | 30 (30%) | 2 (5%) | 8 (9%)
SUCCESS RATE OF SINGLE DOSE RADIOIODINE-131 THERAPY FOLLOWING FIXED OR CALCULATED DOSE APPROACH IN PATIENTS WITH GRAVES’ DISEASE

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Aim: The aim of this study was to evaluate the effectiveness of single dose radioiodine-131 therapy and results of follow-up in patients with Graves’ disease.

Material and methods: Therapeutic effectiveness and follow-up results of 139 patients (31 male and 108 female, mean age: 45 ± 14 years) treated with radioiodine-131 for Graves’ disease between the years of 2000 and 2006 were evaluated retrospectively. Mean follow-up period after therapy was 18 ± 16 months. Radioiodine-131 therapy was given orally using calculated dose (80-120 μCi/g) or fixed dose approaches in 17 and 122 patients, respectively. The criteria for successful therapy was defined as euthyroidism or hypothyroidism after radioiodine therapy and, the existence of hypothyroidism six months after therapy was considered as unsuccessful therapy. Twenty two patients were excluded from the study because of failure in follow-up. The success rates for both calculated and fixed dose groups were determined.

Results: Mean doses were 8 ± 4 mCi and 10 ± 3 mCi in calculated and fixed doses groups, respectively, and did not differ significantly (p > 0.05). Single dose success rates were 38% in calculated dose group and 59% in fixed dose group. The incidence of hypothyroidism after therapy was higher in fixed dose group compared to calculated group (55% vs. 23%). There were no therapeutic complications in the groups due to radioiodine.

Conclusions: Our results suggested that radioiodine-131 provides a safe and effective treatment for Graves’ disease. Although the incidence of hypothyroidism was higher, fixed dose approach was more effective and practical than calculated dose approach.

TC-99M MDP BONE SCINTIGRAPHY IN DETECTION OF DISTANT METASTASES FROM LUNG CANCER
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Background: Lung cancer is known to favour haematoagogenic dissemination raising the possibility of distant metastases. The probability of a solitary bone lesion to be malignant, is of considerable clinical interest.

Aim: To determine the incidence of abnormal bone scintigraphy (BS) scans and to review the pattern of BS findings in lung cancer patients.

Material and methods: We retrospectively analyzed one hundred of patients (76 males and 22 females) mean age of 63.3 years with diagnosis of lung cancer, who underwent BS during the three year’s period (2003–2006). Scintiscans were classified as positive, negative and suspicious for bone metastases.

Results: The incidence of positive findings was 57%, negative findings 33% while the image suspicious for bone metastases was obtained in 10% of patients. Out of 57 patients with bone metastases 51 scans showed multiple asymmetric foci of increased tracer activity localized in ribs, spine, extremities, pelvis, sternum, scapula and skull in 80%, 61%, 55%, 48%, 14%, 10% and 6 % of scans respectively. BS revealed solitary metastases in 6 patients. Lesions were located in lower limbs in three patients and in upper limb, pelvis and sternum in remaining three patients.

Conclusion: our results suggest that systematic inclusion of limbs in BS acquisition should be necessary for accurate staging of lung cancer patients.

NORMAL ADRENAL UPTAKE OF THE SOMATOSTATIN ANALOGUE, VISUALIZED IN SPECT EXAMINATION WITH 99mTc-EDDA/HYNIC-TOC
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Background: Interpretation of any radionuclide examination requires a knowledge of the normal radiotracer distribution and its variants. As usually reported, the biodistribution of the somatostatin analogues includes the uptake in the liver, gallbladder, spleen, kidneys, colon, pilar, pulmonary gland, salivary gland and breast (variable). Although adrenal medulla expresses type 2 somatostatin receptors, only few papers described visualization of the normal adrenals in SPECT examination with radiolabeled somatostatin analogues. In this paper we report how often the normal adrenals can be seen in the scintigraphy performed with 99mTc-EDDA/HYNIC-TOC.

Material and methods: The studied group comprised 48 patients (27 females and 21 males), the mean age of the group was 58 years (range: 28-79 years). The patients were diagnosed with neuroendocrine tumors (40 pts) or pulmonary carcinoma (8 pts) and referred to the Department of Nuclear Medicine of Medical University of Lublin for staging before a treatment by means of the somatostatin receptor scintigraphy. In all the cases adrenal glands were reported as normal in CT examination, performed before the scintigraphy.

Imaging protocol: administered dose of 99mTc-EDDA/HYNIC-TOC (99mTc-Tektrotyd, Polatom, Lodz, Poland) was 740 MBq. SPECT acquisition was performed two hours after IV injection of the radiotracer, using a dual head gamma-camera Variscan Elscint. High-resolution collimators and a matrix of 128 × 128 pixels were applied. One hundred and twenty projections were acquired, each of 30 s duration. Filtered back projection with a Butterworth filter was used for reconstruction. Visual analysis of the images was made by two specialists in nuclear medicine.

Results: Radiotracer activity in the area corresponding to the left adrenal gland (“hot” spot close to the upper pole of the left kidney) was observed in 15 (31.2%) patients (7 females and 8 males). In 4 (8.3%) patients (1 female and 3 males) adrenal activity was seen bilaterally (Table 1).

Conclusion: The normal distribution of 99mTc-EDDA/HYNIC-TOC, evaluated by SPECT, in some adult patients may include adrenal uptake on one or both sides.

Table 1. Adrenal uptake of 99mTc-EDDA/HYNIC-TOC in 48 SPECT examinations

<table>
<thead>
<tr>
<th>Uptake visible in SPECT</th>
<th>Number of patients</th>
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<tr>
<td>Right adrenal only</td>
<td>15 (31.2%)</td>
</tr>
<tr>
<td>Left adrenal only</td>
<td>4 (8.3%)</td>
</tr>
<tr>
<td>Both adrenals</td>
<td>0 (%/</td>
</tr>
<tr>
<td>Total</td>
<td>19 (39.5%)</td>
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COMPARISON OF SERUM THYROGLOBULIN, I-131 AND TC-99M THYROID SCINTIGRAPHY, THYROID I-131 UPTAKE AND ULTRASONOGRAPHY IN THE EVALUATION OF PATIENTS WITH THYROID CANCER AFTER SURGERY

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Aim: The extent of remnant thyroid tissue after surgery influences the outcome of radioiodine ablation in patients with thyroid cancer. Aim: To evaluate the use of neck ultrasonography (USG), Tc-99m thyroid scintigraphy (TS), iodine-I-131 scintigraphy (IS), thyroid I-131 uptake (IU) and serum thyroglobulin (Tg) levels in the evaluation residual thyroid remnants after surgery.

Material and methods: We prospectively studied 30 patients with a median age of 44 years (range, 21-68 years) with differented thyroid carcinoma treated with total or near total thyroidectomy. Among them there were 22 patients with papillary and 8 with follicular tumors. Patients with metastases and anti-Tg antibodies were excluded. After optimal endogenous thyroid-stimulating hormone stimulation (> 30 mIU/l), 30 pairs of TS and TS and IU studies were performed one month after thyroid surgery. Concomitant serum thyroglobulin levels were available for all patients. The presence or absence of thyroid tissue on scintigraphy was correlated with USG and post-treatment whole body I-131 scintigraphy (WBS).

Results: None of our patients had extrathyroidal uptake on the post-treatment WBS. Tg values 1 month after surgery were in the range of 0.2-21.0 ng/ml (median: 2.65 ng/ml), I-131 uptake in the thyroid bed varied between 0.1 to 8.7% (median: 1%), Tg levels positively correlated with thyroid bed iodine uptake (r = 0.726, p < 0.0001). TS and IS detected residual tissue in the neck in 21 (70%) and 15 patients (50%) respectively. The agreement (kappa value) between IS and TS was 0.6%, (p < 0.001). When IU values were > 1.5%, all patients had tracer uptake in the thyroid bed both on TS and IS. IS and TS were able to show remnant tissue in 55% and 25% of patients who had ≤ 1.5% IU, respectively. TS was found to be significantly better (p < 0.005) than USG for the detection of remnant thyroid tissue.

Conclusions: For the postoperative evaluation of patients with well differentiated thyroid cancer without metastasis and anti-Tg antibodies, 1) IS is superior to TS for the detection of residual thyroid tissue in patients with ≤ 1.5% iodine uptake, 2) detectable Tg levels correlate with tissue remnants and 3) postoperative measurement of cervical I-131 uptake could be a guide in deciding the ablative dose of I-131.

TREATMENT OF SMALL AND MEDIUM JOINTS BY MEANS OF RADIOISOTOPE INJECTION

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Aim: To familiarize with the indications, doing, treatment results of the radiosynoviorthesis.

Material and methods: The paper summarizes the result of 21 follicular lymphoma patients subjected to radioimmunotherapy in PLRG centers. Ibritumomab (Zevalin) is the only radioimmunoconjugate currently available in Europe registered for treatment of follicular lymphoma relapsing or refractory after Rituximab. It combines the specificity of an anti-CD20 monoclonal antibody with the power of beta emitting 131I, being particularly efficient in a fibrosed, poorly vascularised lymph nodes. All 21 patients were heavily pretreated, after failing 2-6 lines of previous therapy. In the whole group median event free survival exceeded 15 month, and overall survival was not yet reached at 45 months of follow-up. Subgroup analysis and literature review are included, to identify patients which could merit most of RT.

Conclusions: For the postoperative evaluation of patients with well differentiated thyroid cancer without metastasis and anti-Tg antibodies, 1) IS is superior to TS for the detection of residual thyroid tissue in patients with ≤ 1.5% iodine uptake, 2) detectable Tg levels correlate with tissue remnants and 3) postoperative measurement of cervical I-131 uptake could be a guide in deciding the ablative dose of I-131.

OUR FIRST EXPERIENCES WITH 99mTc-HMPAO LABELLED WHITE CELL (LEUCOSCINT) IN EVALUATION PATIENTS WITH INFLAMMATORY BOWEL DISEASES

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The aim of the study was to verify the effectiveness of labeled 99mTc-HMPAO labelled white cells in the detection of inflammatory foci in patients with bowel diseases. A total number of 9 patients with clinical suspicion of bowel inflammation were investigated. Additional data were provided using clinical finding, ultrasonography, computer tomography and magnetic resonance imaging, colonoscopy and laboratory analysis for confirmation of bowel inflammation. The white cells were reconstituted with 99mTc-HMPAO (Leuco-Scint, Medis-Radiopharma, Hungary) expecting at least 80% of lipophilic label complexes. After reconstitution 99mTc-HMPAO labelled white cells were intravenously reinjected in dose 55-740 MBq. Serial imaging at 5 min, 1, 2 and 3 hours were performed in whole body planar modality (anterior and posterior view abdomen and pelvis). When needed, additional scintigrams were acquired after 24 h. In 4 patients with equivocal findings on planar scintigraphy, emission computed tomography was performed. There were positive findings in all evaluated patients with bowel inflammation (four due to Crohn’s disease, three to ulcerative colitis and two to inflammatory enterocolitis). Increased white cells accumulation was found to be located in different parts of bowel. In 5 patients (55%), was registered more than one focal site of intensive white cells distribution. The rate of appearance of positive uptake was concordant with clinically manifested intensity of bowel inflammation. According to our results scintigraphy with 99mTc-HMPAO labelled white cells is a useful method for detection, assessment of exact localization and rate of intensity of inflammatory foci in bowel diseases.
INTER AND INTRA VARIABILITY OF TC-99M DMSA RENAL SCINTIGRAPHY IN CHILDREN: IMPACT OF OBLIQUE VIEWS

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Aim: Technetium-99m-dimercaptosuccinic acid (DMSA) renal scintigraphy is frequently used to assess the presence and severity of kidney damage. This work was undertaken to evaluate the level of inter and intra-observer variability of Tc-99m DMSA scintigraphy and to identify the impact of posterior oblique views on scan interpretation in the pediatric population.

Material and methods: A total of 100 DMSA renal scans (197 kidneys) were evaluated. Two nuclear medicine physicians independently interpreted the images four times; twice only from the posterior projection views and twice from the posterior and oblique anterior views. For each kidney, the observers had to choose between the following results: normal, abnormal and indeterminate. The indices of variability used were the percentage of agreement, kappa statistic and marginal homogeneity test.

Results: Disagreement of DMSA scan interpretation was present in 18% of kidneys within observers and in 21% cases between observers when only posterior images were used. Oblique views changed the interpretation in 14% and 11.5% kidneys for the first and second observer respectively. The intra- and inter-observer reproducibility (kappa values) varied between 0.683 and 0.708 for intra-, between 0.609 and 0.671 for inter-observer variability when only posterior views were used. With the addition of oblique views the kappa values improved slightly (0.725–0.812 and 0.768–0.730 respectively).

Conclusions: Oblique views were found useful in approximately 13% of kidneys and had effect on inter- and intra-observer variability. Our results suggest that they should be used routinely in children with a clinical suspicion of UTS to obtain reliable evaluation.

MAGNETIC IRON OXIDE LABELLED WITH 54Mn AS A POSSIBLE DRUG CARRIER

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Aim: Magnetic nano- and microparticles of iron(II,III) oxide Fe3O4 are interesting as possible drug carriers whose migration to target tissues can be enhanced by external magnetic fields. The isotope 54Mn (312.3 d; 100% EC, gamma 834.848 keV 99.976%), a convenient single photon calibration source, is known from preclinical studies on the function and movement in the brain [1–3]. Magnetic nanoparticles of iron and Mn2+ ions is involved in the metabolism of proteins, lipids and carbohydrates. Magnetic fields-enhanced in vivo transport of 54MnFe3O4 can give more information about metabolism of both metals in target sites. The aim of this work was synthesis of Fe3O4 and its labeling with manganese-54Mn whose chemical properties are close to those of iron.

Material and methods: The label 54Mn was produced in the 54Fe(14N,α)54Mn reaction by alpha-particle activation of vanadium(IV) oxide V2O5 of natural isotopic abundance (99.75% 54V). 54Mn was separated from Fe3O4 solution on Dowex-50 resin in the presence of an internal tracer 55Fe, produced in the same cyclotron via 55Co(p,α)55Fe reaction. The micro-component 54Mn was eluted from the column with 3 M HCl, and the macro-component vanadium with 0.1 M HCl/ethanol/H2O2 mixture. Magnetic suspension of Fe3O4 was produced in the 8Fe3+ + SO4 2– + 16NH4OH → 2Fe3O4↓ + 8SO4 2– + 16NH4+ reaction [4] from freshly prepared reagents under heavy stirring and bubbling with Argon gas at 70°C. The black precipitate was centrifuged and washed with water and with water-ethanol mixture. The labelled Fe3O4 was produced in the same way by co-precipitation with 54Mn added as 54MnCl2. Radioactive samples were identified by gamma-ray spectrometry, using a 3250 HPGe coaxial detector coupled with a multichannel analyser.

Results: The carrier-free 54Mn was of 99.9% radionuclide purity. The black precipitate of Fe3O4 exhibited well expressed magnetic properties. Labelling with 54Mn was quantitative (Figure 1). Stability of the precipitate in vitro is still to be checked.

Conclusions: Although the long half-life of 54Mn makes it out as a radiopharmaceutical, its excellent detection properties can help in observation of labelled Fe3O4 in pre-clinical research.

REFERENCES
From 1997 (opening of our department of nuclear medicine) we performed myocardial perfusion planar scintigraphy using $^{99m}$Tc-Tc chloride. From 1993 we have used SPECT with $^{99m}$Tc-tetrofosmin (Myoview GE Healthcare) and $^{99m}$Tc-Tc chloride. Last 1 years only with $^{99m}$Tc-Myoview — non-gated, since April 2003 gated SPECT. 80% of stress studies used bicycle ergometer, 20% pharmacological stress — diprydamole, rarely dobutamine.

Our equipment: from 1990 and 1994 to 2006 was: two single headed SPECT camera — DAIACAM Siemens with HR collimator, from 2003 double headed SPECT camera E.C. Siemens with LEHR collimator, from 2007 double headed SPECT camera Sym-bia S Siemens with LEHR collimator. Additional equipments: 12-point ECG, ergometer, defibrillator, laryngoscope, ambuvac, pharmaceuticals for resuscitation. Stress studies are performed only at the presence NM specialist (rarely cardiologist — mainly dobutamine stress) trained in stress test and specialised secondary educated staff.

Main indications for MPI are:

- myocardial ischemia — detection, localization, relevancy;
- evaluation of the stenosis detected by coronaryangiography, risk stratification;
- myocardial viability in patients with left ventricle dysfunction in revascularization planning;
- evaluation of revascularization effect (PTCA or bypass-CABG) in patients with symptomatic recurrence or with positive or non-diagnostic stress EKG;
- acute coronary syndrome.

Relative contra-indications for MPI are: pregnancy (tests are done only in vital indication — acute coronary syndrome), patient is empty-belled (except in diabetic patients), 1-2 hours before the study to drink or eat food and drinks caffeine-free (possibility of pharmacological stress), to withdraw beta blockers for 48 hours. In rest studies for detection of viability a nitroglycerin is administered (except in patients with hypertension) 3-5 minutes prior Myoview application. Intravenous cannula is obligatory. Bicycle ergometry: monitoring of ECG and blood pressure, starting at 25-30 W and gradually individually increasing. Stress should not be shorter than 4 min. with respect to angina pectoris, dyspnoea or strong EKG differences, arrhythmia etc. RF is applied at the top of stress at about 85% of max. aerobic capacity (75% in patients after IM or revascularization) and test continues another 1.5 min. Then myocardial perfusion scintigraphy is done. Using $^{99m}$Tc-Myoview acquisition starts 15-30 min. after RF application.

Pharmacological stress with diprydamole: monitoring of ECG and blood pressure, application dose — i.v. infusion 0.56 mg/kg of Curanyl during 4 min. Physical stress during the test is suitable — elimination of side effects, reduction of splanchnic vascu- larization. 100-300 mg amifostine i.v. blocks effect of diprydamole in cases of troubles after test.

Acquisition: gated SPECT, supine position is basic. In patients with attenuation of posterior (mainly in obese pts) or anterior (in some women) wall, the prone position is necessary to boil it. It is possible to use up to 12 GBq in volume 8 ml from one vial and to examine great number of patients. It is economically very advantageous. Our satisfaction with Myoview is great.

SPECT is great.

It is possible to use up to 12 GBq in volume 8 ml from one vial and to examine great number of patients. It is economically very advantageous. Our satisfaction with Myoview is great.

Conclusions: Scintigrams quality using Myoview is excellent. With radiopharmaceuticals appended. It is very necessary to boil it. It is possible to use up to 12 GBq in volume 8 ml from one vial and to examine great number of patients. It is economically very advantageous. Our satisfaction with Myoview is great.