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## THALLIUM SCINTIGRAPHY VERSUS CONTRAST-ENHANCED MAGNETIC RESONANCE IN THE ASSESSMENT OF VIABLE MYOCARDIUM

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**Background:** The aim of the study was to compare <sup>201</sup>Tl SPECT to contrast-enhanced magnetic resonance imaging CMR in detection of viable myocardium. Gadolinium contrast is increasingly accumulated in the areas of scar tissue.

**Material and methods:** forty patients (average age 62 ± 7) with coronary artery disease (70% of patients three vessel disease) and ventricular systolic dysfunction were examined. All patients were indicated for coronary artery by-pass surgery. The global systolic dysfunction was defined as ejection fraction (EF) of less than 45% by isotope ventriculography. Patients were examined by means of ECG gated <sup>201</sup>Tl SPECT in supine and prone position (VariCam, Elscint, no correction for scatter or attenuation). The viability in each segment was scored 1–0.66–0.33–0. Score number 1 was used for normal <sup>201</sup>Tl uptake with activity of > 80% of the maximum in the myocardium evaluated. Score 0.66 and 0.33 represented <sup>201</sup>Tl activities in the range of 80–65% and 65–50% and score 0 is activity of < 50% and those segment were considered nonviable. For CMR system Magnetom Expert (Siemens) was used. Viability study was performed 30 minutes after administration of 0.15 mmol/kg of gadolinium contrast. The extent of contrast-enhanced tissue within the segment was assessed by following score: 1 — no contrast enhancement, 0.75 — L 25%, 0.5 — > 25% and L 50%, 0.25 — > 50% and L 75%, 0 — contrast enhancement > 75% of the segmental area. The segment with > 50% scar was considered as nonviable.

**Results:** Thirty-eight patients underwent revascularization (number of vessels revascularized 2.1 ± 0.92). The viability was evaluated in 1360 segments before revascularization. In 9.3% of <sup>201</sup>Tl SPECT viable segments there were no signs of viability on CMR. On the other hand 199 (60%) of 328 <sup>201</sup>Tl SPECT nonviable segments were viable on CMR. This finding was more frequent in inferior and inferolateral segments, where 80% of <sup>201</sup>Tl SPECT nonviable segments were viable on CMR (p < 0.0001). The viability index for <sup>201</sup>Tl SPECT was 0.76 ± 0.203 versus 0.73 ± 0.134 (p = NS). The mean EF increased by 5.5% ± 7.31% (from 33.6% ± 8.57% to 39.2% ± 9.68%). The improvement of global systolic function of left ventricle occurred in 17 (53%) patients, EF in this subgroup increased by 10.6% (from 33.7% ± 8.6% to 44.4% ± 8.3%). No relationship was found between the change of EF and the amount of viable tissue assessed by <sup>201</sup>Tl SPECT or CMR.

**Conclusions:** Concordant results were noted in the total number of 1 065 (78%) of the 1 360 segments evaluated.

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## THE ROLE OF QUANTITATIVE MIBI SPECT AND FDG PET CARDIAC IMAGING IN THE MONITORING OF THERAPY BY MONONUCLEAR BONE MARROW CELL TRANSPLANTATION

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**Background:** The aim of this study was to assess the role of MIBI gated SPECT/FDG PET imaging in the prediction of repair of infarcted myocardium by autologous mononuclear bone marrow cell (BMC) transplantation.

**Material and methods:** We analyzed a total of 43 patients (pts) with acute myocardial infarction with irreversible injury after primary percutaneous coronary intervention (no contractile reserve on dobutamine echocardiography and both MIBI and FDG uptake < 50% of maximum). In addition to standard therapy, 27 of them were treated by BMC, while 16 pts were randomly integrated into the control group. Using 4D-MSPECT software, we quantified MIBI/FDG uptake and gated SPECT left ventricular ejection fraction, end-diastolic/end-systolic volumes (LVEF, EDV/ESV) before BMC therapy and 3 months later.

**Results:** In the control group, the baseline LVEF was 39.0% ± 11.6% versus 40.4% ± 10.3% 3 months later (P = NS); we observed the worsening of both EDV/ESV from 162 ml/104 ml to 184 ml/114 ml. In the BMC group, the average LVEF improved from 41.0% ± 9.6% to 45.2% ± 10.5% (P < 0.05); however, the average ESV remained equal (95 ml versus 93 ml), and EDV enlarged from 156 ml to 163 ml. Among BMC pts, we identified 13 responders to therapy with significant improvement of the average LVEF from 43.3% ± 11% to 51.4% ± 10.4% and the EDV/ESV from 145 ml/84 ml to 133 ml/67 ml (P < 0.05). The remaining 14 pts were non-responders with no change in the LVEF (39.1% ± 8.1% versus 39.8% ± 7.4%, P = NS), the EDV/ESV increased from 166 ml/105 ml to 188 ml/116 ml. Among responders to therapy, the presence of dysfunctional segments with residual perfusion (MIBI uptake 31–50% of maximum) was observed dominantly. The subgroup of non-responders consisted only of the pts with very low MIBI uptake (0–30% of maximum).

**Conclusions:** Our results suggest the capability of MIBI gated SPECT/FDG PET imaging for prediction of repair of infarcted myocardium by BMC transplantation. The presence of residual MIBI uptake (31–50% of maximum) in the non-viable myocardium was the best predictor of LV function improvement after BMC therapy.

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## CEREBRAL BLOOD FLOW SPECT IMAGING IN POST-STROKE APHASIA

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**Background:** Aphasia is usually the result of cerebrovascular diseases and occurs in 19–38% of stroke patients. Aphasic syndromes can be correlated to relatively specific brain lesions located in the left cerebral hemisphere, but this not always can be established. The relationship of particular areas of the perisylvian cortex to the different components of the language-processing system remains the subject of controversy. Regional cerebral blood flow (rCBF) patterns were evaluated in patients with distinct aphasic syndromes following ischaemic stroke.

**Material and methods:** The research involved 50 stroke patients with a single left-hemisphere lesion and residual aphasia. Language disorders, assessed according to the Weisenburg and Mc Bride classification and by the Boston Diagnostic Aphasia Examination, were divided into three groups: receptive, expressive and mixed aphasia. Single-photon emission computed tomography (SPECT) images of the brain were performed utilizing a three-head gammacamera Multispect-3 (Siemens, Erlangen, Germany) with Tc-99m-labeled ECD (FAM, Łódź, Poland). Comparisons of reduced cerebral perfusion between patients with different types of aphasia were performed, as well as between patients with good and with poor recovery from aphasia.

**Results:** The most prominent perfusion abnormalities in expressive aphasia were found in the parietal lobe and to the lesser degree in the frontal lobe, whereas the most prominent deficits in receptive aphasia were found in the left temporal and parietal regions and striatum. In mixed aphasia, SPECT images showed the most extensive damage involving both cortical and deep structures of the left cerebral hemisphere aside occipital lobe. Frontal CBF was significantly higher in patients with good language recovery when compared to patients with poor recovery from aphasia and low degree of speech improvement.

**Conclusions:** CBF SPECT imaging is useful in elucidating aphasic syndromes and improves the predictive value of brain imaging after stroke. Perfusion changes in aphasia usually are not limited to the cerebral cortex but also involve several subcortical loops, which is important to the clinical picture of aphasia and subsequent recovery. The present study highlights the integrative role of the subcortical structures in language and speech functions. Preservation of perfusion in left frontal lobe appears to be crucial in recovery from aphasia. The results support the usefulness of regional cerebral blood flow SPECT imaging as a diagnostic aid in the post-stroke aphasias with a prognostic role of recovery.

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## THE TIMING OF SURGERY TREATMENT OF CRANIOSYNOSTOSIS IN CHILDREN BY SPECT CEREBRAL PERFUSION IMAGING (LECTURE FOR TECHNOLOGIST)

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**Background:** Craniosynostosis (the early closing of one or more of sutures) is relatively frequent disease with obscure aetiology. It is detected in early infantile age on the basis deformity skull and face. The treatment is only surgical. The timing of surgery depends on single photon emission computer tomography (SPECT) cerebral perfusion imaging or positron emission tomography that can detect cerebral hypoperfusion under closing sutures. The cerebral hypoperfusion requires surgery treatment that has positive effect to the next development of child.

**Material and methods:** Four children have been examined by SPECT cerebral perfusion imaging repeatedly for 12–18 months. SPECT was started 20 minutes after intravenous application 185–370 MBq of <sup>99m</sup>Tc-methyl cysteinate dimer (by course of patient's body weight). During acquisition children were in general anaesthesia (by anaesthetist). The child head was fixed to table of gamma camera. Rotating, digital, double-head gamma camera, Helix (Elscint) or VariCam (Elscint) with infrared body contouring and large field of view was used. Gamma camera was fitted with low-energy, high resolution, parallel-hole collimators. Images were evaluated by the conventional processing system Xpert-Pro (Elscint). Raw data made a back up of magneto-optical disc.

**Result:** cerebral hemisphere deformities were detected in all children, but without cerebral hypoperfusion and without necessity surgery treatment (plastic of skull) for the present. All children will be observed further.

**Conclusion:** The psychomotor development of children with craniosynostosis can be improved by the early surgery treatment. The detection of local cerebral hypoperfusion by SPECT makes the early surgery treatment possible.

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### EXPERIENCES WITH <sup>99m</sup>Tc-DEPREOTIDE SCINTIGRAPHY IN PATIENTS WITH LUNG CANCER (LECTURE FOR TECHNOLOGIST)

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**Background:** The non-small cell lung cancer (NSCLC) is very frequent malignant disease. The early assessment of diagnosis and the accurate staging improves prognosis and determines the way of treatment of patient. <sup>99m</sup>Tc-depreotide is used for differential diagnostics of solitary lung nodes in combination with CT or X-ray. <sup>99m</sup>Tc-depreotide imaging can be used for the precising of staging in patients with suspicion for metastasis in hilar lymphonodes too.

**Material and methods:** Whole body planar scintigraphy (matrix 1024 × 256, velocity 10 cm/min.) in anterior and posterior views was started 2–4 hours after intravenous application of 600–900 MBq <sup>99m</sup>Tc-depreotide (by course of patient's body weight). The chest single photon emission computer tomography (matrix 128 × 128, 3<sup>2</sup>/30 s) was added to improve sensitivity, specificity and better spatial specification. The rotating, digital, double-head gamma camera, Helix (Elsint) or VariCam (Elsint) with infrared body contouring and large field of view were used. Gamma camera was fitted with low-energy, high resolution, parallel-hole collimators. As necessary a static 1 000 000 counts image (matrix 256 × 256, zoom 1–1.5) of chest in anterior and posterior views was made 6 and 22 hours after application. Images were evaluated by conventional processing system Xpert-Pro (Elsint).

**Results:** Metastases in hilar lymphonodes were detected newly in most of patients and therefore the way of treatment was changed. The planned radical surgery was replaced by systemic chemotherapy.

**Conclusion:** <sup>99m</sup>Tc-depreotide scintigraphy speeded up and put more precisely the staging in patient with NSCLC and changed the way of treatment.

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### LYMPHOSCINTIGRAPHY IN CERVICAL CANCER PATIENTS

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**Background:** regional lymph node surgical management is an integral part of cervical cancer therapy. In gynaecological oncology, recent studies have confirmed the utility of the sentinel node concept in vulvar and cervical cancer. The method of marker's administration is considered to play an important role in sentinel node detection. The aim of the study was to assess the sensitivity of sentinel node detection by the use of pre- and intra-operative radiodetection versus blue-dye method in patients with cervical cancer, as well as the influence of sub-epithelial versus deep way of tracer administration.

**Material and methods:** We studied 60 patients with cervical cancer (stage IB–IIA) using a blue dye injection technique and radionuclide studies with a pre-operative scintigraphy utilising a nanocolloid tracer/dual-head gammacamera and intra-operative gamma-probe technique during radical abdominal hysterectomy. In 30 randomly chosen patients the tracer was administered using deep (0.5–1.0 cm) injection technique; in 30 by sub-epithelial injection.

**Results:** all sentinel nodes visible in pre-operative scanning were also detected by intra-operative gamma probe. After deep injection sentinel nodes were showed in 27 patients (90%) on both sides, in 3 pts. on one side; only 40% of sentinel nodes were detected using blue dye technique. Following sub-epithelial injection of radioisotope sentinel nodes were found in all 30 patients (100%), after blue dye injection in 28 patients (93%).

**Conclusions:** radionuclide sentinel node detection seems to be slightly superior as compared to blue dye technique. Sub-epithelial administration provides better sensitivity of sentinel node detection, probably due to differences in lymphatic vessels architecture.

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### VETERINARY NUCLEAR MEDICINE — SCANNING SARCOMAS IN SMALL ANIMALS

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**Background:** Radionuclide studies in veterinary sciences date back to sixties of XXth century, but grow dynamically in last decade. It is essentially limited to mammals: cats, dogs, horses, in rare cases cows, camels and birds. An important issue of those studies is veterinary oncology. The results of veterinary studies might have some implications in human oncology and human diagnostic imaging due to the similarities of pathological background.

**Aims:** We studied a series of animals with osteo-, chondro- and fibrosarcomas for assessing the extent of the tumour, detecting distant metastases, evaluating the accumulation of radiotracer in primary tumour.

**Material and methods:** we studied 8 animals with primary sarcomas — 7 dogs and 1 cat. Those were 4 cases of osteosarcoma, 2 chondrosarcoma, 2 fibrosarcoma proven by pathological assessment. Average age of the animals was 7.8 ± 3.1 years, average time of the disease 4.1 ± 2.2 months. In 6 animals the primary focus was localised in the bones; in 2 cases it was soft tissue sarcoma. Bone scintigraphy has been performed 2 hours post-injection of <sup>99m</sup>Tc-MDP of average activity 370 MBq and gammacamera Multispect-3 (Siemens, Erlangen, Germany).

**Results:** In 4 animals the primary tumour was limited to the primary focus in a bone. In 2 animals distant metastases were found, in 1 animal with primary soft tissue sarcoma rib metastases were found. In a cat with soft tissue sarcoma no metastases were showed.

**Conclusions:** Radionuclide bone studies are applicable also in animals showing the extent of the tumour and detecting distant metastases. A very interesting finding is the accumulation of radiotracer in soft tissue sarcomas — this is a finding, which — if confirmed in a large series — could open the gate to treatment of soft-tissue sarcomas with radionuclides like strontium-89 or samarium-153 also in humans. Osteotropic radionuclides: strontium-89, samarium-153, rhenium-186 are for a long time used for the treatment of bone metastases in humans. If such nuclides accumulate in soft tissue sarcomas — the results showed above indicate such a possibility — it cannot be excluded that radionuclide therapy could be used also in soft tissue sarcomas and their metastases in humans.

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### LUNG PERFUSION SCINTIGRAPHY IN PATIENTS AFTER TOTAL SURGICAL REPAIR OF TETRALOGY OF FALLOT

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**Background:** Lung perfusion abnormalities (LPA) are frequently observed in patients with tetralogy of Fallot (TOF). They can be of primary origin or occur as a result of different causes including surgery. There are several diagnostic modalities used clinically to assess LPA. Among others lung perfusion scintigraphy is a non invasive, sensible and easy accessible method.

**Aim:** The main aim of the study was assessment of frequency of lung LPA (both asymmetry of lung perfusion and regional perfusion defects) in patients after total surgical correction of TOF and its relation to treatment method (primary total correction vs. palliative shunt prior to correction). Moreover analysis of gathered data was expected to evidence possible correlation between frequency and extent of LPA and treatment history.

**Material and methods:** 110 patients (49 men and 61 women) after surgical repair of TOF were studied. In 33 cases palliative surgery (Blalock-Taussig shunt) was done prior to complete repair of TOF. Mean age was 15 ± 8.2 years. Lung perfusion scans with use of <sup>99m</sup>Tc macroaggregates of albumin were analyzed semiquantitatively with assessment of relative uptake and regional perfusion defects.

**Results:** asymmetric pattern of pulmonary perfusion was observed in 65 (59.1%) patients. Appearance of perfusion asymmetry was equal in patients after primary surgical repair and in those who underwent palliative shunt prior to correction. There was no prevalence of relative hypoperfusion of right or left lung in both groups of patients. Regional perfusion defects were observed in 44 (40%) cases. There was no difference in frequency of regional perfusion defects in patients after primary surgical repair and in those who underwent palliative shunt prior to correction and they appeared more often ( $p < 0.05$ ) in right than in left lung in both groups of patients. There was a significant correlation between age at surgical repair and prevalence of regional perfusion defects appearance.

**Conclusions:** Asymmetric lung perfusion and regional perfusion defects are frequent findings in patients with TOF. There is no significant difference in appearance of LPA in patients after primary surgical repair and in those who underwent palliative shunt prior to correction. Correction of TOF at early age decreases the risk of regional perfusion defects but has no impact on asymmetry of pulmonary perfusion.

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### RESULTS OF FIVE YEAR PROSPECTIVE STUDY <sup>152</sup>SAMARIUM-EDTMP TREATMENT OF PAINFUL BONE METASTASES IN PATIENTS WITH PROSTATE AND BREASTS CANCER

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**Background:** Bone is a common site of metastatic disease and it is the most common site of metastatic spread in breast cancer and prostate cancer. The bone pain appears in majority of patients with bone metastases. The bone pain considerably impairs the patient's life, his mobility and also has negative effect on his psychic. One possibility how to reduce or to remove this pain is the administration of the radiotherapy to the place of metastases. The present medicine disposes of two ways how to administer radiotherapy in the place of metastases: externally irradiation or intravenous administration of bone-seeking therapeutic radiopharmaceuticals as is <sup>152</sup>Samarium-EDTMP. This radiopharmaceutical produces beta radiation and is concentrated in areas of enhanced osteoblastic activity.

**Material and methods:** We introduced intravenous administration of <sup>152</sup>Samarium-EDTMP in 61 patients (32 prostate cancer, 29 breast cancer, aged 41–83, mean 66 years) for painful bone metastases in years 2000–2004. Mean applied activity was 40 MBq/kg. Before <sup>152</sup>Sm-EDTMP therapy bone scintigraphy with <sup>99m</sup>Tc-MDP was performed, range and character of metastases was assessed. Before and one and three months after <sup>152</sup>Sm-EDTMP therapy Karnofsky mobility index, pain score (Numeric Rating Scale 0–9), analgesic score (WHO scale) full blood count, ALP, bone ALP and tumor serum markers (PSA, ACP, CA 15–3) were monitored. Bone marrow toxicity was evaluated 1 month and 3 months after <sup>152</sup>Sm-EDTMP therapy by course of NCI CTC.

**Results:** A significant pain relief was observed in 43% and 36% of patients, mild relief in 32% and 36% and no effect in 25% and 28% of patients one and three months after administration. The pain palliation was joined with an improvement of the mobility and with the decrease of the necessary dose of analgetics. The side effect of <sup>152</sup>Sm-EDTMP treatment was mild and transient bone marrow suppression. No patient had grade 4 and only two patients had grade 3 haematological toxicity one month after treatment. Majority of patients had haematological toxicity grade 1 or 2. Infections or bleeding complications were not observed during three months after <sup>152</sup>Sm-EDTMP therapy.

**Conclusion:** After single administration of <sup>152</sup>Sm-EDTMP we observed analgesic efficacy of various degree in 72% of patients for three months. The bone marrow suppression after <sup>152</sup>Sm-EDTMP was mild and transient.

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### LYMPHOEDEMA: LYMPHOSCINTIGRAPHY VERSUS OTHER DIAGNOSTIC TECHNIQUES — A CLINICIAN'S POINT OF VIEW

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The presentation overviews the problem of clinical basis, diagnosis and available therapy modalities for lymphoedema. Regarding diagnostics the measurement of circumference, volume and thickness of the limb are presented, as well as diagnostic imaging modalities. These include direct and indirect lymphography, MRI, CT, ultrasound imaging and lymphoscintigraphy, which are currently considered to be a leading technique in the primary diagnosis of lymphoedema and its follow-up. The paper discusses treatment of lymphoedema and the role of lymphoscintigraphy in the follow-up in patients with lymphoedema.

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### QUALITATIVE SALIVARY GLAND SCINTIGRAPHY CHANGES MAY PRECEDE SIALOMETRIC FINDINGS IN SJÖGREN'S SYNDROME

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**Background:** The aim of the study was to assess the degree of saliva secretion impairment in patients with Sjögren's Syndrome by salivary scintigraphy as compared with sialometry i.e. collecting and measuring the saliva secretion.

**Material and methods:** 37 women aged 23–68 lat (mean 48.7 years) with primary (7 patients) or secondary Sjögren's Syndrome (30 patients) were enrolled in the study. Salivary scintigraphy was performed utilizing a single-head gammacamera Diacam (Siemens, Erlangen, Germany) following the application of <sup>99m</sup>technetium as pertechnetate (185 MBq). Stimulation of saliva secretion has been achieved by applying the lemon juice on the tongue 30 min after starting the scanning. Scintigraphic curves were qualitatively classified as normal, flattened, flat or descending. Sialometry has been performed in all patients by collecting the saliva into a calibrated probe for 10 min. The following thresholds for sialometry of unstimulated saliva secretion were applied: 1. Normal: —  $\geq 0.3$  ml of saliva secretion/min; 2. Oligosialia —  $< 0.3$  ml/min; 3. Xerostomia — very low saliva secretion —  $< 0.1$  ml/min, and for stimulated secretion respectively: 1.  $\geq 1$  ml/min. 2.  $< 1$  ml/min. 3.  $< 0.2$  ml/min.

**Results:** Unstimulated saliva secretion: in 13 patients (35.1%) very low secretion of saliva (xerostomia) was showed — in 9 of those patients flat or descending scintigraphic curves were seen; in 13 of patients with (35.1%) with oligosialia most frequent was flattened type (10 persons). In 11 patients with normal saliva secretion (29.8%) most often was the flattened type of the curve (6 patients), but no normal curves were seen. Assessing the stimulated saliva secretion in 7 patients (18.9%) with very low stimulated saliva had flat or descending curves. In 19 patients (51.3%) with oligosialia most had flattened or flat scintigraphic curves. In 11 patients (29.8%) with normal secretion of stimulated saliva only in 1 patient the curve was normal, in 5 patients flattened, in 5 flat or descending.

**Conclusions:** In most of patients the type of scintigraphic curves was in agreement with sialometry; however, in patients with normal sialometry most of scintigraphic findings were abnormal and probably indicated more advanced pathology of salivary glands than this assessed by sialometry. It seems that scintigraphic results may precede sialometry as a dental assessment and therefore be an early indicator of salivary pathology in Sjögren's Syndrome; it's a sensitive albeit unsatisfactorily specific tool.

**Particular types of scintigraphic curves versus sialometric data: unstimulated saliva**

Sialometry [ml/min.]	No. of patients [years]	Duration of disease $\bar{x} \pm \delta$	No of patients with particular sialoscintigraphic curves			
			Normal	Flattened	Flat	Descending
< 0.1 (xerostomia)	13	6.8 ± 4.9	2	2	7	2
0.1–0.3 (oligosialia)	13	6.8 ± 7.2	0	10	1	2
$\geq 0.3$ (normal)	11	8.4 ± 7.8	0	6	3	2

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### SEMIQUANTITATIVE INDICES IN SALIVARY GLAND SCINTIGRAPHY IN SJÖGREN'S SYNDROME

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**Background:** To assess the function of salivary glands utilizing semiquantitative indices as compared to sialometric measurements in patients with Sjögren's Syndrome (SS).

**Material and methods:** 37 patients aged 23 to 68 years (mean 48.7 years) with Sjögren's Syndrome and 10 age-matched controls were enrolled in the study. Salivary scintigraphy was performed utilizing a single-head gammacamera Diacam (Siemens, Erlangen, Germany) following the application of <sup>99m</sup>technetium as pertechnetate (185 MBq). Stimulation of saliva secretion has been achieved by applying lemon juice on the tongue 30 min after starting the scanning. The results of parotid and submandibular glands were analyzed semiquantitatively utilizing the indices of maximal tracer's uptake in the glands, percentual uptake in particular glands and stimulated saliva's ejection fraction.

Maximal tracer's uptake was defined as:  $(b-a)/b \times 100\%$ , where: a means maximal increase of uptake in vascular phase (1 min); b maximal uptake in secretory (parenchymal) phase. Percentual uptake was defined as the uptake in particular salivary gland versus an uptake in all glands. Stimulated saliva's ejection fraction was defined as  $100 \times [1 - (\text{minimal tracer's activity following the stimulation})]$ . Sialometry, i.e. collecting and measuring the amount of saliva with calculating its speed of secretion has been performed by a dentist.

**Results:** No significant differences in the uptake of a tracer were found between parotid (mean 46.8%) and submandibular glands (mean 53.1%) in Sjögren's Syndrome patients and controls. Also no differences in tracer's uptake were found between Sjögren's Syndrome patients with normal and impaired sialometric findings — uptake indices mean 50.4% and 52.2% respectively for submandibular and mean 49.4% i 47.7% parotid glands. Maximal tracer's uptake in the salivary glands and percentual uptake in particular glands did not correlate with sialometric findings. Stimulated saliva's ejection fraction at 30th min. of the study in controls was 10.1% in parotid glands and 2.7% for submandibular glands. In SS patients it was decreased to 9.0% in patients with normal sialometry findings, 7.4% with oligosialia, in xerostomia — 0.5%. Those data, however, correlated poorly with stimulated sialometry findings.

**Conclusions:** there is a long-time discussion on the usefulness of semiquantitative parameters in salivary scintigraphy. Following our results it seems that semiquantitative indices of salivary scintigraphy are little specific in Sjögren's Syndrome patients, although sometimes may be useful when assessed jointly with qualitative analysis of scintigraphy and sialometric findings.