MicroSEGAMS

Key members: László Csernay
Árpád Makay
Eörs Máté [1]
Attila Kuba [2]

Founded by: Gamma Works

Partners:
SzOTE KIL (László Almási, Zoltán Nemessányi)

Gamma Works (Ádám Billing, Béla Kári)

Related projects:

- Early years [3]
- SEGAMS [4]
- SEGAMS-80 [5]
- SUPER-SEGAMS [6]

Lifetime from: 1987
Lifetime to: 1993

Short description: MicroSEGAMS is an AMIGA-based system to perform and evaluate isotope-diagnostic studies. It was created using the experiences with SUPER-SEGAMS.

Description:
MicroSEGAMS is an AMIGA-based diagnostic system written in C. It contains as procedures most functions of SUPER-SEGAMS. Using these procedures we have developed organ- and disease-oriented clinical programs. The system includes an interpreter that provides the user a relatively simple programming facility. It is also possible to write user programs in C.

MicroSEGAMS is able to accept data from other systems using the system-independent INTERFILE format, and similarly, data created by MicroSEGAMS could be processed in other systems.

Thanks to the superior computation capacity of the AMIGA the system could be used to produce and process tomographic and whole-body studies. It also allowed the generation and display of (even 3D) parametric images that give a good overview of the changes in the human body.
Myocardial perfusion study (planar from three directions)
Whole body study
Ventriculography in equilibrium

RNV-Rct 05-Jun-96
RNV_Rect_Det

Tc-99m pyrophosphate 340 MBq
Parallel 62° 64° 16°
Gated 2 directions C16 C16 19° B1
LAO-opt 28.1/500 LAO-70 24.9/500

Heart rate: 60/min
Average cardiac cycle: 1002 ms
Ejection time: 319 ms
Filling time: 692 ms
Peak ejection rate CEDU/sec): 2.4
Peak filling rate CEDU/sec): 1.2

Global EF: 47.8%

Regional EFs:

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>1</td>
<td>34.9% 59.2%</td>
</tr>
<tr>
<td>5</td>
<td>2</td>
<td>29.5% 73.1%</td>
</tr>
<tr>
<td>4</td>
<td>3</td>
<td>33.2% 52.7%</td>
</tr>
</tbody>
</table>

HEART STUDY

Heart rate: 60/min
R-R time: 1002 ms
Eject. time: 319 ms
Fill. time: 692 ms
Peak E. rate: 2.4
Peak F. rate: 1.2

Global EF: 47.8%

Regional EFs:

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>59.2%</td>
<td>73.1%</td>
<td>62.7%</td>
<td>58.2%</td>
</tr>
<tr>
<td></td>
<td>33.2%</td>
<td>29.5%</td>
<td>34.9%</td>
<td></td>
</tr>
</tbody>
</table>
Combined regional cerebral blood flow and volume study

Normal


Documentation of changes in regional myocardial function due to coronary bypass surgery by gated SPECT, using three-dimensional display of Fourier phase and amplitude [26], Mester, János [8], Kösa István [27], Máté Éörs [9], Lupkovics G [28], Kovács Gábor [29], and Csernay László [10], European Heart Journal, 1992, Volume 13, p.360, (1992)

Investigation of left ventricular wall motion by gated blood-pool SPECT, using three-dimensional display of Fourier phase and amplitude [30], Mester, János [8], Kösa István [31], Matievics Vera [32], Máté Éörs [9], and Csernay László [10], First International Congress of Nuclear Cardiology, Abstract book, (1993)

Efficiency of the orthopan tomoscintigram (OPTS) in abnormalities of the jaws [33], Rajtár, Mária [34], Máté Éörs [9], Fazekas András [35], Szabó György [36], and Csernay László [10], European Journal of Nuclear Medicine, 1993, Volume 10, p.898, (1993)

Assessment of myocardial function with gated SPECT before and after coronary by-pass surgery [37], Mester, János [8], Kösa István [31], Máté Éörs [9], Matievics Vera [32], Lupkovics G [28], Kovács Gábor [29], and Csernay László [10], European Journal of Nuclear Medicine, 1993, Volume 10, p.918, (1993)

Evaluation of cerebral vasoreactivity by SPECT and transcranial Doppler sonography using the acetazolamide test, [38], Pávics, László [20], Grünwald F [39], Barzó Pál [21], Ambrus Edit [22], Menzel C [40], Schomburg A [41], Borda L [42], Máté Éörs [9], Bodosi Mihály [43], Csernay László [25], et al., NUKLEARMEDIZIN-NUCLEAR MEDICINE, 1994, Volume 33, Issue 6, p.239 - 243, (1994)

[43] http://www.inf.u-szeged.hu/biblio?f%5Bauthor%5D=1035
[45] http://www.inf.u-szeged.hu/biblio?f%5Bauthor%5D=637
[46] http://www.inf.u-szeged.hu/biblio?f%5Bauthor%5D=1046