Results of the blind experiment on assessment of efficiency of computer-aided diagnostic system Dynamics-100

Computer-aided diagnostic system Dynamics-100 is a portative remote complex with realized recent developments in microelectronics and software-hardware equipment for processing of electrophysiological information. The complex has been developed on the basis of a principally new method of discrete dynamic analysis of the electrocardiosignal biorhythmological parameter complex.

The research was conducted at the direction of the first Vice-governor of Saint-Petersburg V. N. Shcherbakov according to the Decision of the New Medical Equipment Committee of the Ministry of Health of the Russian Federation (protocol # 12 as of October 03, 1996).

The blind experiment was conducted in the period from September 01, 1997 till September 08, 1997 in Saint-Petersburg City Oncologic Dispensary in the departments of general surgery and gynaecology.

The patients were examined without a preliminary anamnesis, irrespective of having any concurrent diseases and applied treatment methods.

Electrocardiosignal registration was performed by the standard lead for 5 minutes in lying or seated positions.

The results of diagnostics in oncology patients by software-hardware complex Dynamics-100 were compared with a final diagnosis verified after surgical treatment by histologic examination of the extirpated tissue.

52 patients was examined during the experiment.

Probability of the correct diagnostics is 89%.

G. M. Manikhas
Chief doctor of the City Oncologic Dispensary

Signature/
October 10, 1997

Round stamp/: Health Committee of Saint-Petersburg Mayor’s Office

E. Ya. Buzov
Director of “Dynamics” Center

Signature/
October 20, 1997

Round stamp with the coat of arms of the USSR/: State Committee of the USSR on Science and Technology

Leningrad innovation and research medical and biological center Dynamika
Results of the blind experiment on assessment of efficiency of computer-aided diagnostic system Dynamics-100  
(Supplementary protocol as of October 20, 1997)

Computer-aided diagnostic system “Dynamics-100” is a portable remote complex with realized recent developments in microelectronics and software-hardware equipment for processing of electrophysiological information. The complex has been developed on the basis of a principally new method of discrete dynamic analysis of the electrocardiosignal biorhythmological parameter complex.

The research was conducted at the direction of the first Vice-governor of Saint-Petersburg V. N. Shcherbakov according to the Decision of the New Medical Equipment Committee of the Ministry of Health of the Russian Federation (Report #12 as of October 03, 1996) as agreed with the Chairman of Saint-Petersburg Health Committee.

The blind experiment was conducted in the period from November 03, 1997 till November 11, 1997 in Saint-Petersburg City Oncologic Dispensary. 47 patients referred by the policlinic department doctors were examined. The patients were examined without a preliminary anamnesis, irrespective of having any concurrent diseases and applied treatment methods. Electrocardiosignal registration was performed by the standard lead for 5 minutes in lying or seated positions.

The results of diagnostics in oncology patients by software-hardware complex Dynamics-100 were compared with a final diagnosis established by the doctors of the Dispensary.

The results of the examination are summarized in the table below:

<table>
<thead>
<tr>
<th>Clinical diagnosis by the Oncology Dispensary</th>
<th>Diagnosis by Dynamics-100 system</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oncology 24</td>
<td>Oncology 30</td>
</tr>
<tr>
<td>Chronic diseases 12</td>
<td>Oncological disease risk 12</td>
</tr>
<tr>
<td>Absence of oncological diseases 11</td>
<td>Absence of oncological diseases 5</td>
</tr>
</tbody>
</table>

G. M. Manikhas  
Chief doctor of the City Oncologic Dispensary  
/Signature/  
December 03, 1997  
/Round stamp/: Health Committee of Saint-Petersburg Mayor’s Office

E. Ya. Buzov  
Director of “Dynamics” Center  
/Signature/  
December 03, 1997  
/Round stamp with the coat of arms of the USSR/:  
State Committee of the USSR on Science and Technology  
Leningrad innovation and research medical and biological center Dynamika