

МЕТОД ОЦЕНКИ ЭФФЕКТИВНОСТИ
И БЕЗОПАСНОСТИ ДЕФИБРИЛЛИРУЮЩЕГО
ЭЛЕКТРИЧЕСКОГО ИМПУЛЬСА. 0705
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Разработан метод сравнительной
оценки (эффективность и повреждающее
действие на миокард) различных по
форме, продолжительности и амплитуде
дефибриллирующих электрических им-
пульсов. С этой целью в эксперименте
определяют электротерапевтический ин-
декс: отношение порога повреждения
(ток, энергия) к порогу дефибрилляции.
Под порогом повреждения понимают ми-
нимальное воздействие на нормально ра-
ботающее сердце, в ответ на которое
возникает несколько (1-2) экстрасистол.

В новом советском дефибрилляторе
"ДИ-С-01" (масса 10 кг), генерирующем
биполярный импульс, электротерапевти-
ческий индекс равен $2,34 \pm 1$, что вы-
годно отличает этот дефибриллятор от
зарубежных моделей, например, "Эд-Марк",
электротерапевтический индекс которо-
го всего $1,22 \pm 0,62$.

Разработанный метод кратковремен-
ной (менее 1 с) электроанестезии интер-
ференционными токами аппаратом
"ЭЛНАР-01" позволяет расширить об-
ласть применения электроимпульсной
терапии как в условиях скорой меди-
цинской помощи, так и в стационаре.

THE EFFECT OF GLYCEROLTRI- 0707
NITRATE (GTN) ON THE R-WAVE
AMPLITUDE IN PRECORDIAL ECG MAPPING
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In order to prove the hypothesis
that the R-amplitude of the ECG can
be changed by an improvement in oxy-
gen supply, precordial ECG-maps were
registered in a group of 28 patients
(26 males, 2 females, mean age 52.7
years) with coronary artery disease
(CAD) and in 19 (13 males, 6 females,
mean age 49.5 years) with valvular
diseases or myocardopathies.
Measurements were made before and
after the oral administration of
0.8 mg GTN.

In pts with CAD the total of all
R-amplitudes decreased (mean - 17.9
mm), whereas in patients without CAD
it increased (mean + 19.0 mm). The
difference between the groups is sta-
tistically significant. Pts of either
group with normal enddiastolic left
ventricular pressure (LVEDP) showed
an increase in R. The decrease of R
in the CAD group seemed to correlate
with the increased LVEDP.

The decrease of R-waves within
the CAD group may be explained by an
improvement in oxygen supply. The
R-increase in the other group seems
to be related to other effects of GTN.

AUTOMATIC EXTRACTION OF PARAME- 0706
TERS AND CLASSIFICATION OF ECG'S IN A
"MINNESOTA SPACE" VIA COMPUTER
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Among the different codes used for ECG
classification, the one of Minnesota seems to
be of a special interest, since it allows a
quantative coding of a great number of inter-
esting cases and so it is suitable for the e-
laboration of a significant Data Bank.

In this context, an automatic procedure
for ECG acquisition and processing is evident-
ly of great interest.

We present a method for the automatic mea-
surement (by computer) of the characteristic
parameters of the Minnesota Code as well as
the technique by which they can be used in
attempts to show "pathological configuration".
The method consists of three steps: a) A
"spline-type" smoothing of the digitized ECG
that allows b) the identification of the ba-
sic phases (P, QRS, T, isoelectric base..) and
the measurement of the essential parameters
of the Code. c) the ways by which these pa-
rameters can represent the "cardiac state" in
a Minnesota space. The distance between a re-
presentative point of a concrete state and
the points of discrete population ("symbols")
considered anomalous, may give the means for
classification or even diagnosis in some cases.

A pilot project, in about 17,000 ECG's of
population and professional sample in the
Athens area has taken place. Its preliminary
results are presented.

DEVELOPMENTAL CHANGES OF 0708
THE CARDIOELECTRIC FIELD IN THE HEALTH
CHILDREN.

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80 subjects /8-22 yrs/ were studied.
They were divided into 8 groups accord-
ing to the age. All individuals under stu-
dy were selected from a series of 235
children and adolescents on the basis
of anamnestic questionnaire and standard
ECG. Izopotential maps /IPM/ were const-
ructed by the recording of 30 unipolar
leads from all surface of a thorso,
through a modified arrangement of the
electrode grid /Lux et al., 1979/.

IPMs were constructed in 10 ms inter-
vals during the ventricular activation
and in 40 ms of ST segment, in the point
of Schmidt/Schmidt, 1974/ and in the T
wave peak. We constructed the averaged IPMs
/ \bar{x} / for all above specified parts of the
cardiac revolution in all groups and
IPMs \bar{x} -SD for selected time intervals.
While studying the averaged IPMs in age
groups developmental tendencies can be
observed, that are most marked in the pe-
riod of the onset of the ventricular
depolarization and in the repolariza-
tion process under study. The onset of
the QRS differed in the youngest groups
1, 2, 3 from that of the group 6 and 8. In the
youngest age groups significantly higher
incidence of nondipolar features of the
cardioelectric field during the ventri-
cular activation than in the older ones.