



CPP optimal in real time on NICU How I do it with "ICM+" in Moscow

*Neurosurgery Institute named after Burdenko,
Moscow*

Oshorov AV, Polupan AA, Sychov AA, Savin IA, Potapov AA



**Neurosurgery Institute
named after Burdenko
Moscow**

-
- About 8.000 operation per year
-
-



WWW.NSI.RU
info@nsi.ru

How we manage TBI pts

A

assessment of autoregulation

defining «CPPopt» range

Methods of ICP corrections

- removal of mass-effect
- optimization of CPP
- Hypothermia
- DC
- Barbiturates

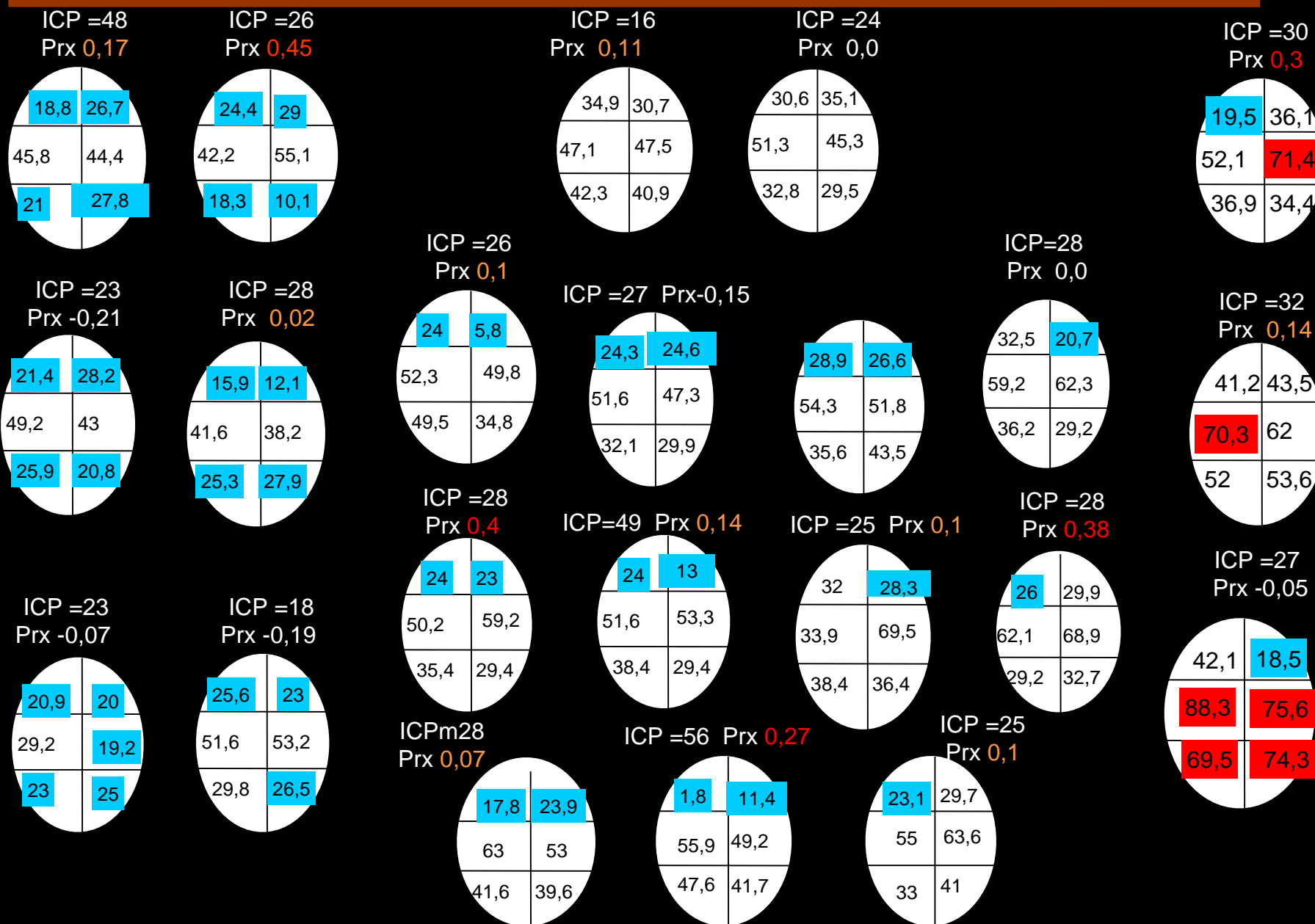
Optimization of CPP

Primary

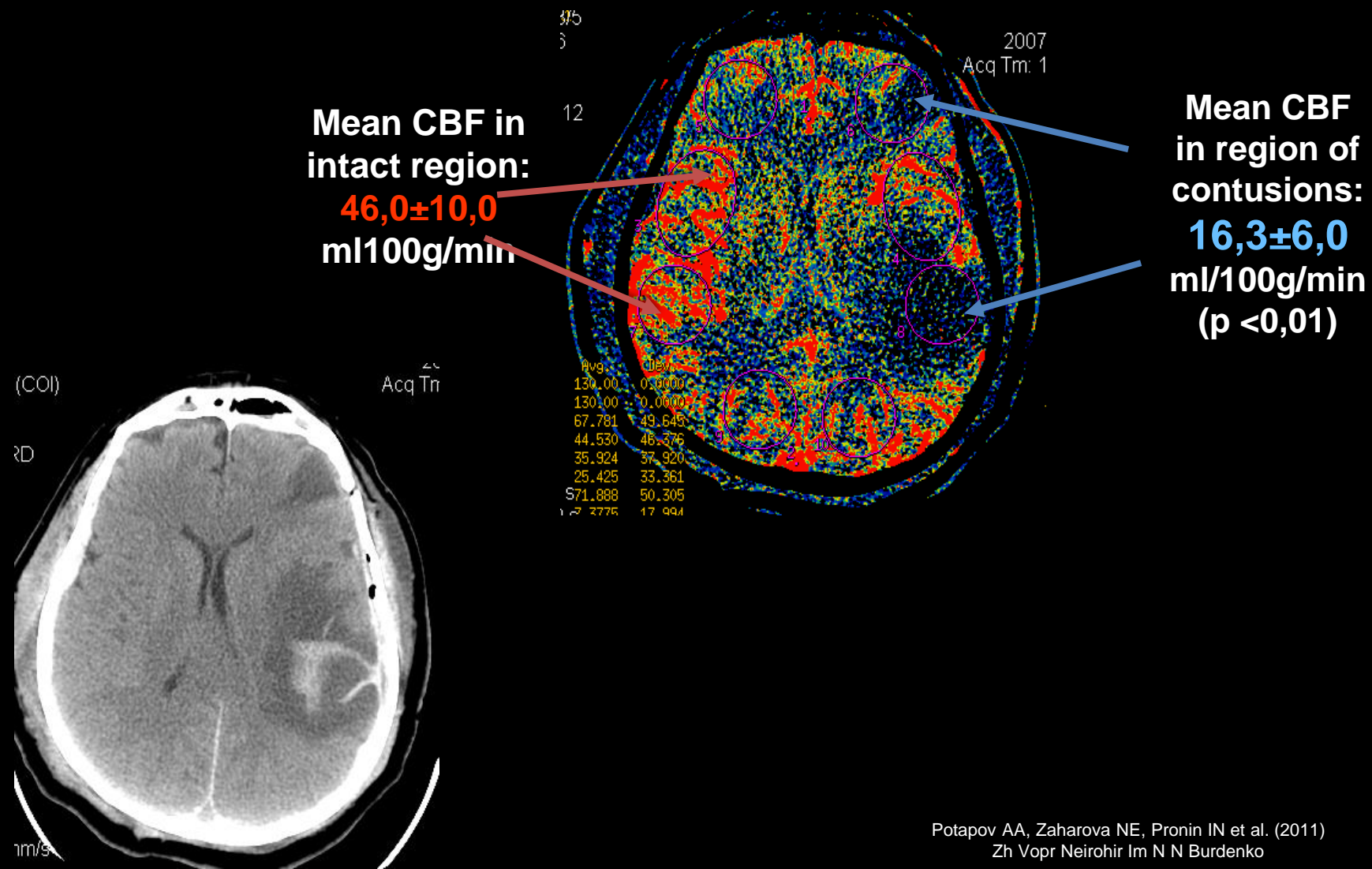
Secondary

Data of rCBF, ICP and Prx in severe TBI pts (GCS < 9)

“This picture shows different variants of regional CBF changes with predominant zones of ischemia and oligemia in the majority of cases and hyperemia only in some cases.”



Data of rCBF in patient with focal injury in left hemispheric GCS – 7, GOS – 3 (severe disability)



ABP
ICP
CPP
+ "ICM Plus"
(Prx)

- Neurosurgical operation :
- remove hematoma,
 - craniotomy,
 - decompression,
 - EVD
 - and other

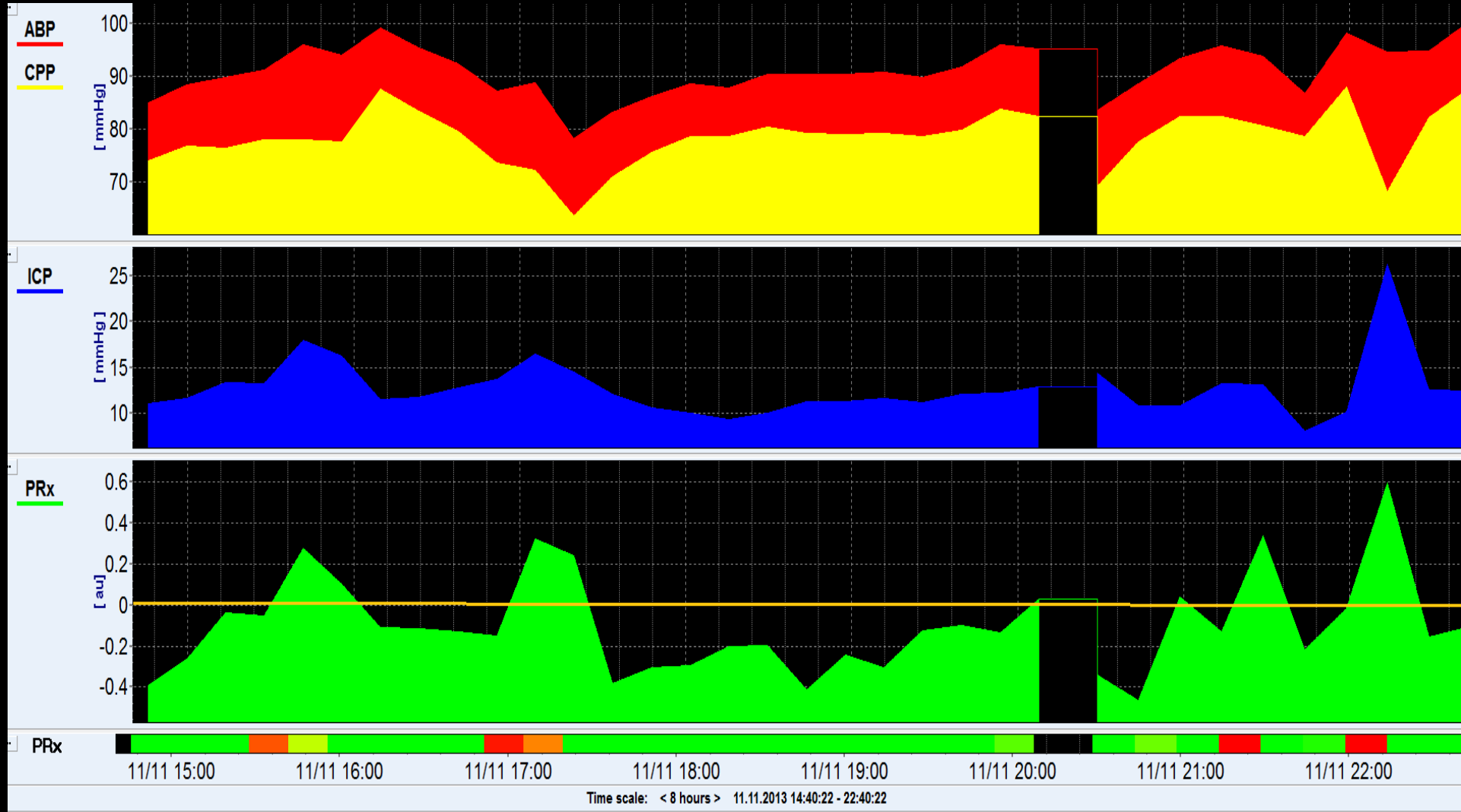
Monitoring Autoregulation ~ 8 h

Autoregulation
was preserved
Prx (-1; 0)

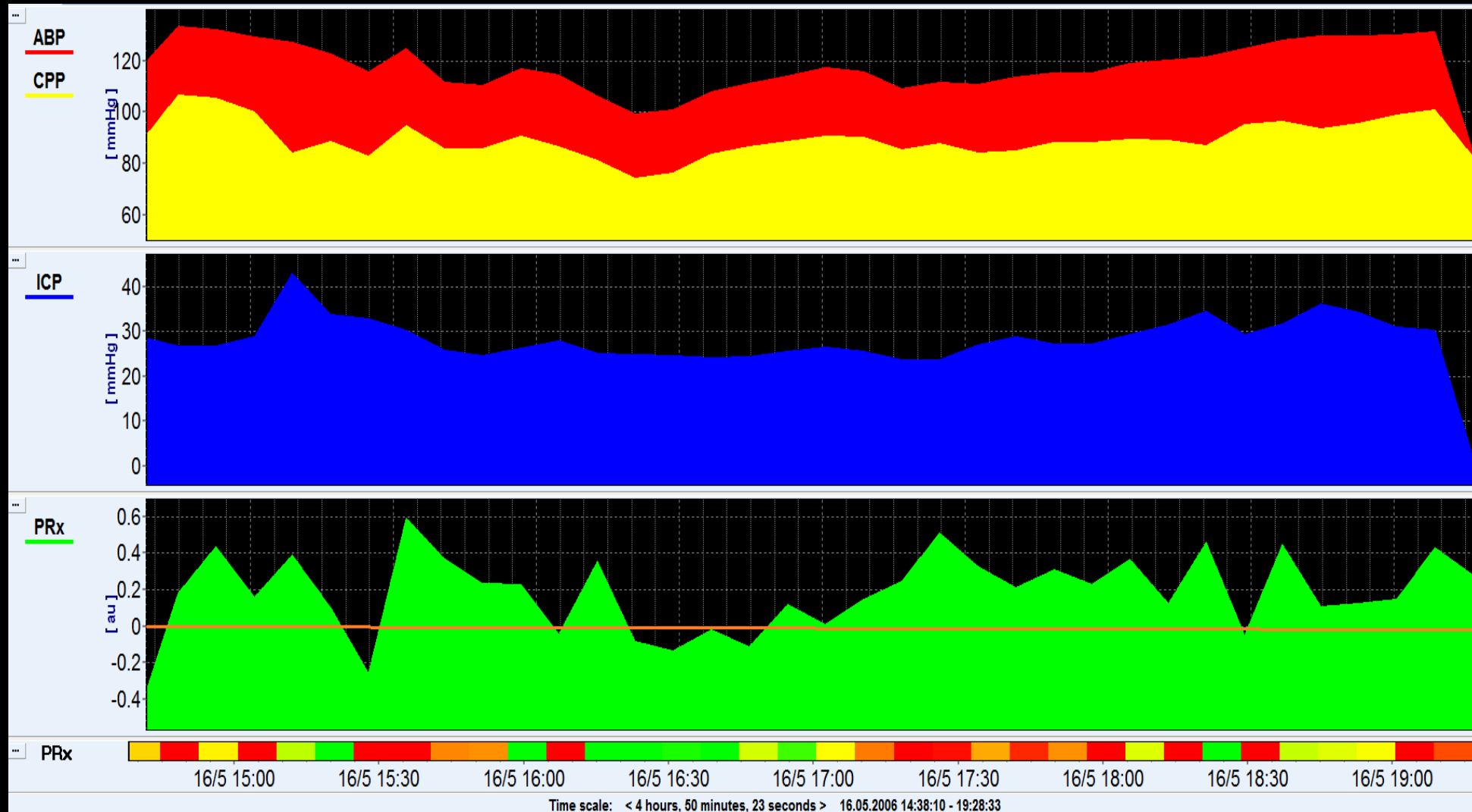
Autoregulation
was partially
failed
Prx (0; 0,2)

Autoregulation
was completely
failed
Prx (0,2; 1)

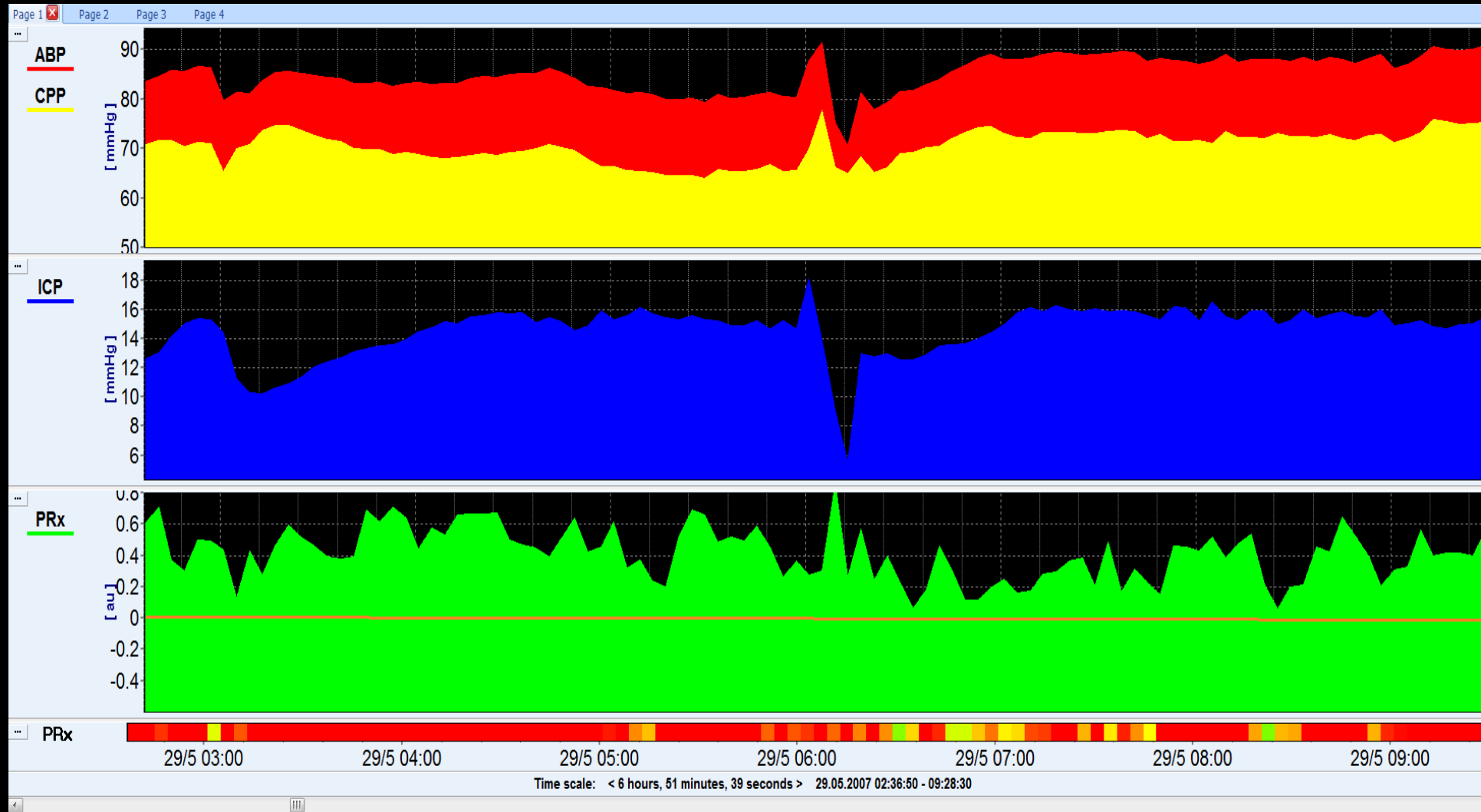
1) Autoregulation was preserved Prx (-1; 0)



2) Autoregulation was partially failure Prx (0; 0,2)



3) Autoregulation was completely failure Prx (0,2; 1)



ABP
ICP
CPP
+ "ICM Plus"
(Prx)

Neurosurgical operation :
remove hematoma,
craniotomy,
decompression,
EVD and other

Autoregulation
was preserved
Prx (-1; 0)

ICP < 20

CPP 50-90

Autoregulation
was partially
failed
Prx (0; 0,2)

ICP < 20

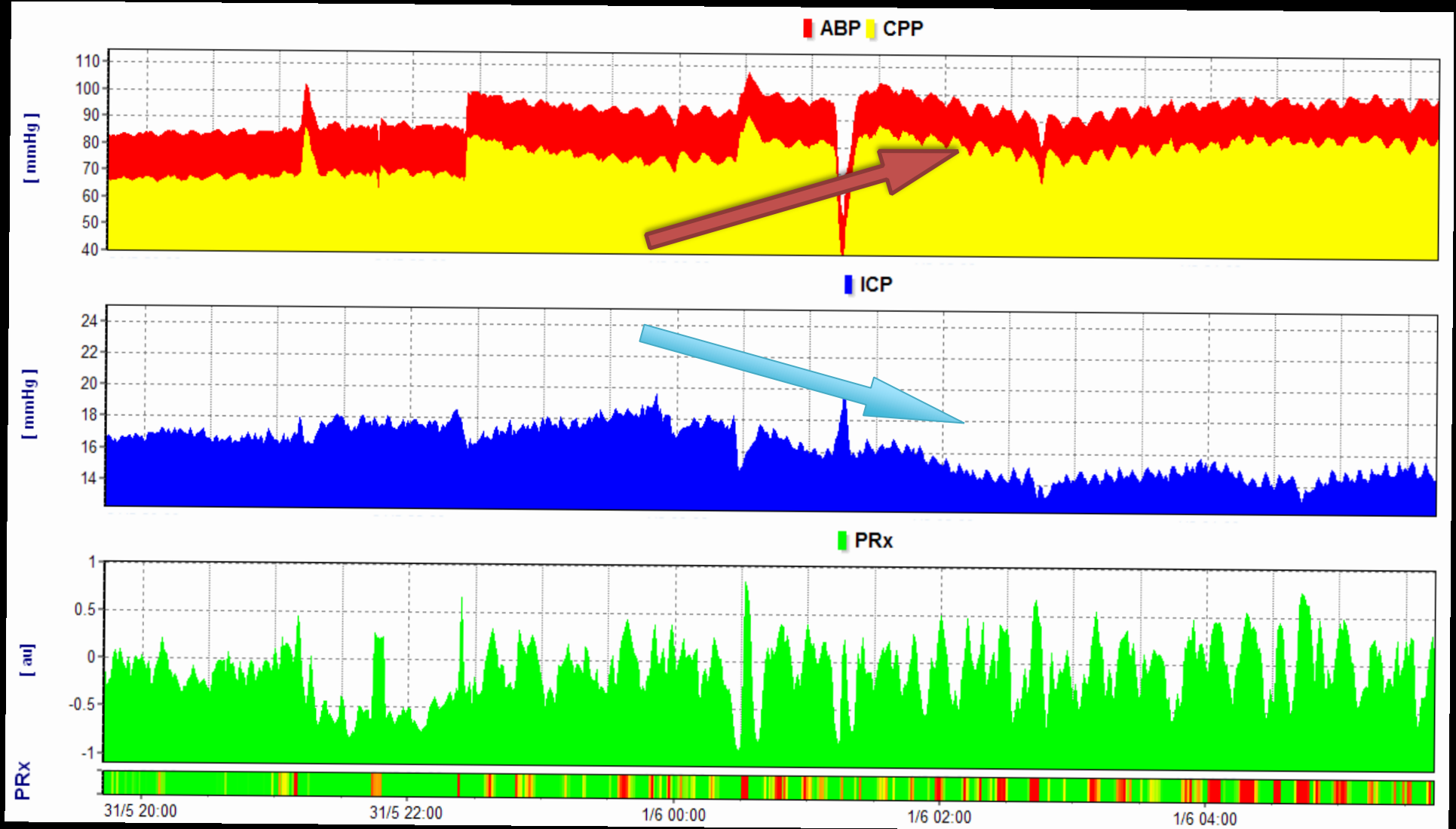
CPP 70-90

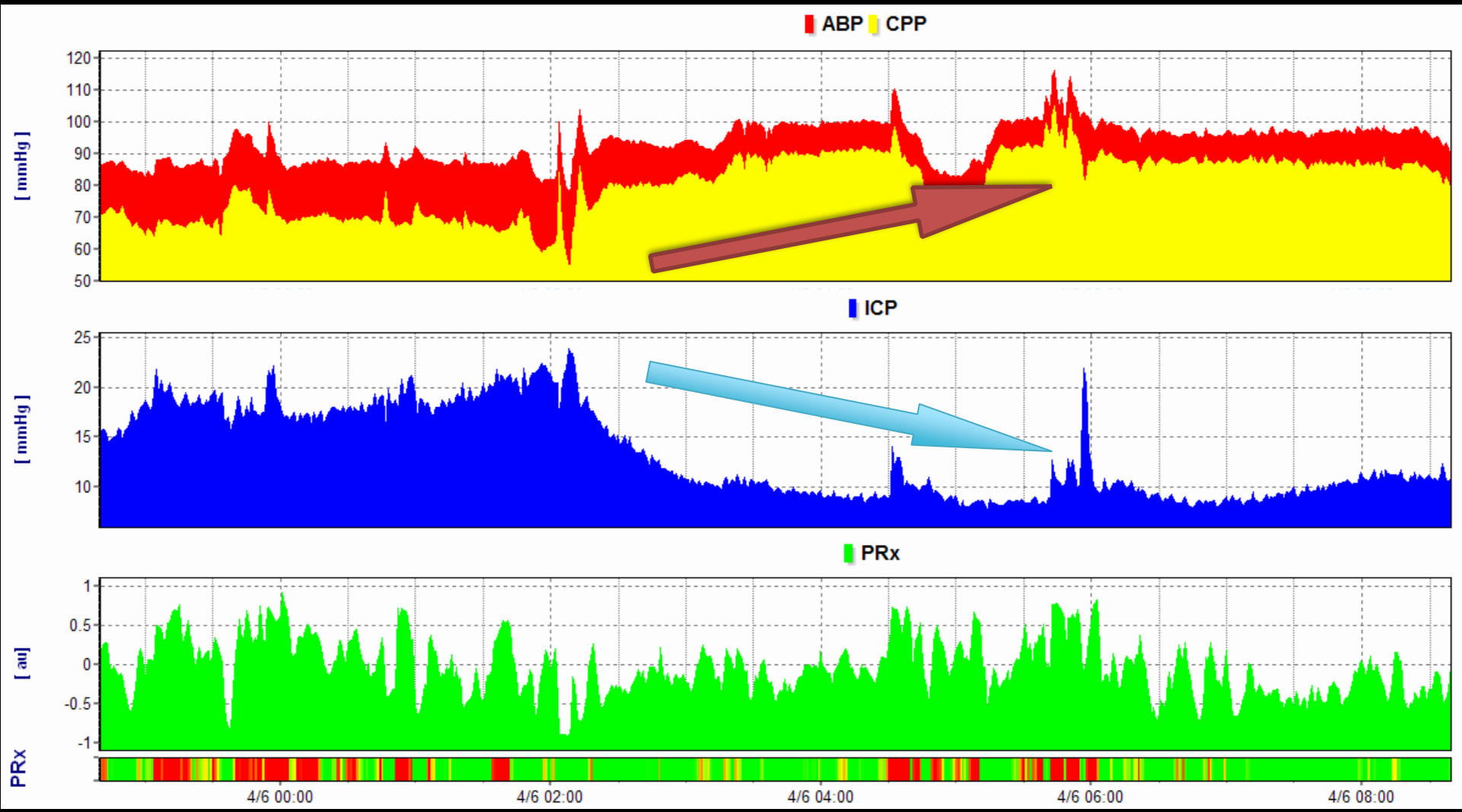
Autoregulation
was completely
failed
Prx (0,2; 1)

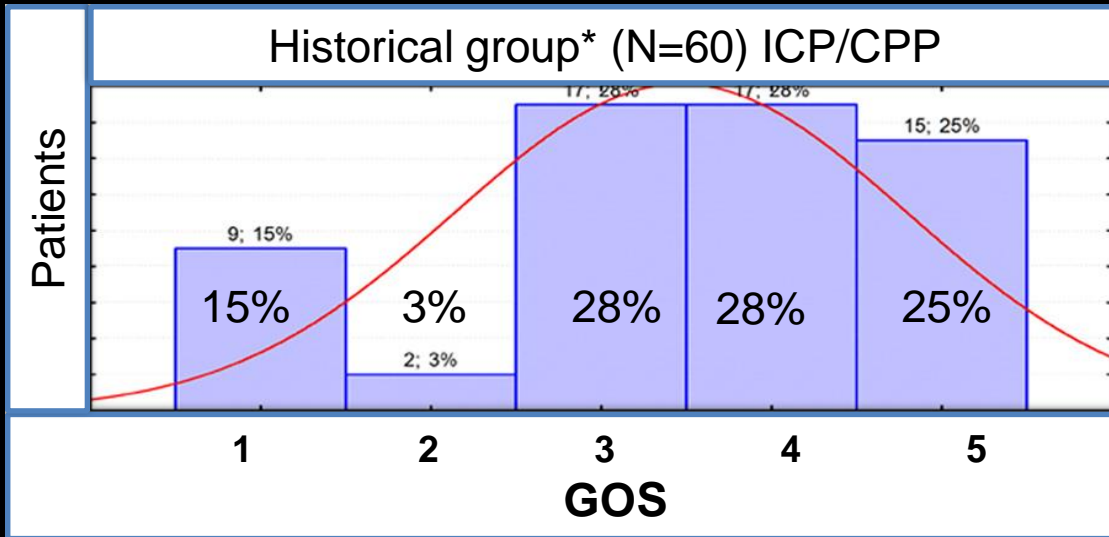
ICP < 20

CPP 50-70

from 65 to 75-80 mmHg



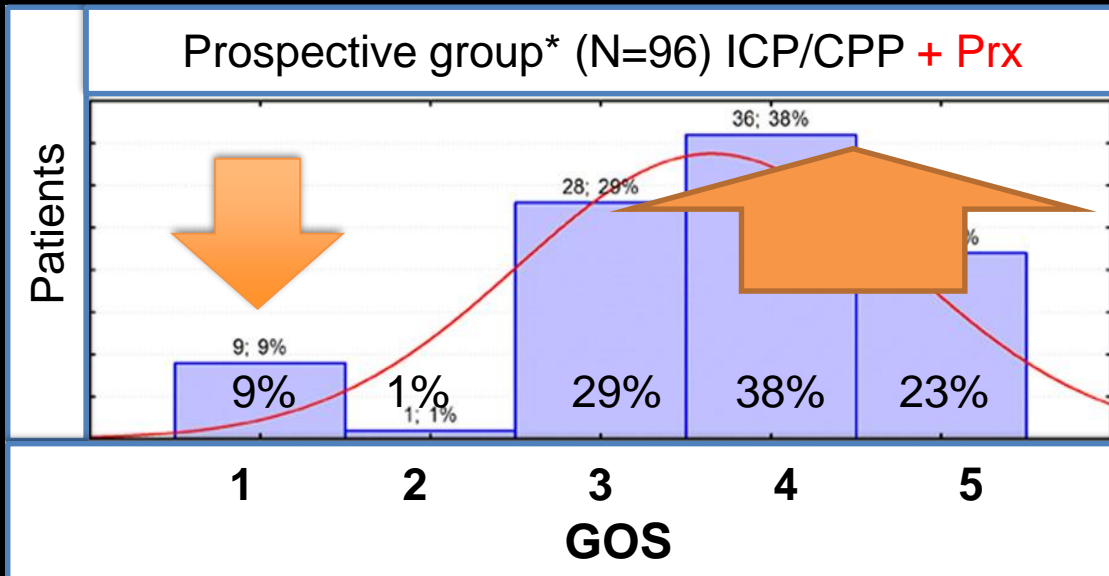




Tendency (but $p > 0,05$)

Decreasing death from 15% to 9%

Increasing Favorable outcome from 53% to 61%



In conclusion:
we need more data to define a best strategy

* - pts with decompression were excluded from analysis

Thank you