

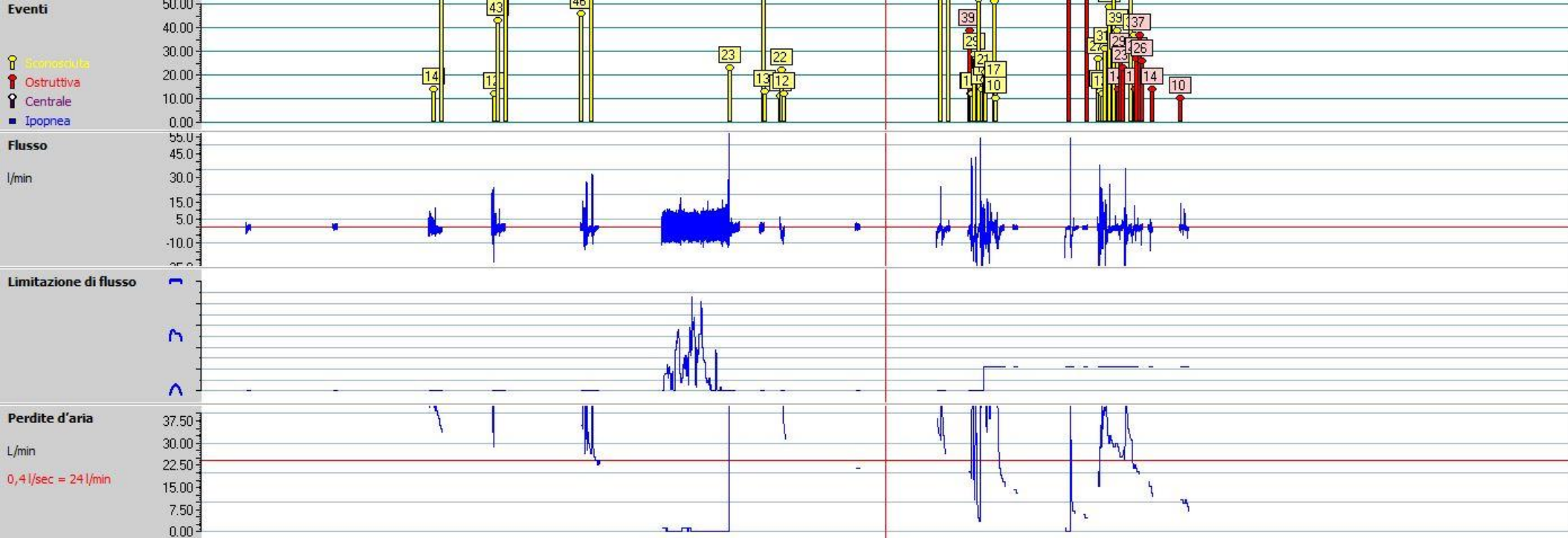
Patient 2

- 5 y 9 m old girl
- VACTERL association
- Hiatal hernia
- Moderate tracheomalacia
- Bronchial stenosis
- Severe dysphagia → PEG

- 14 kg, 101 cm

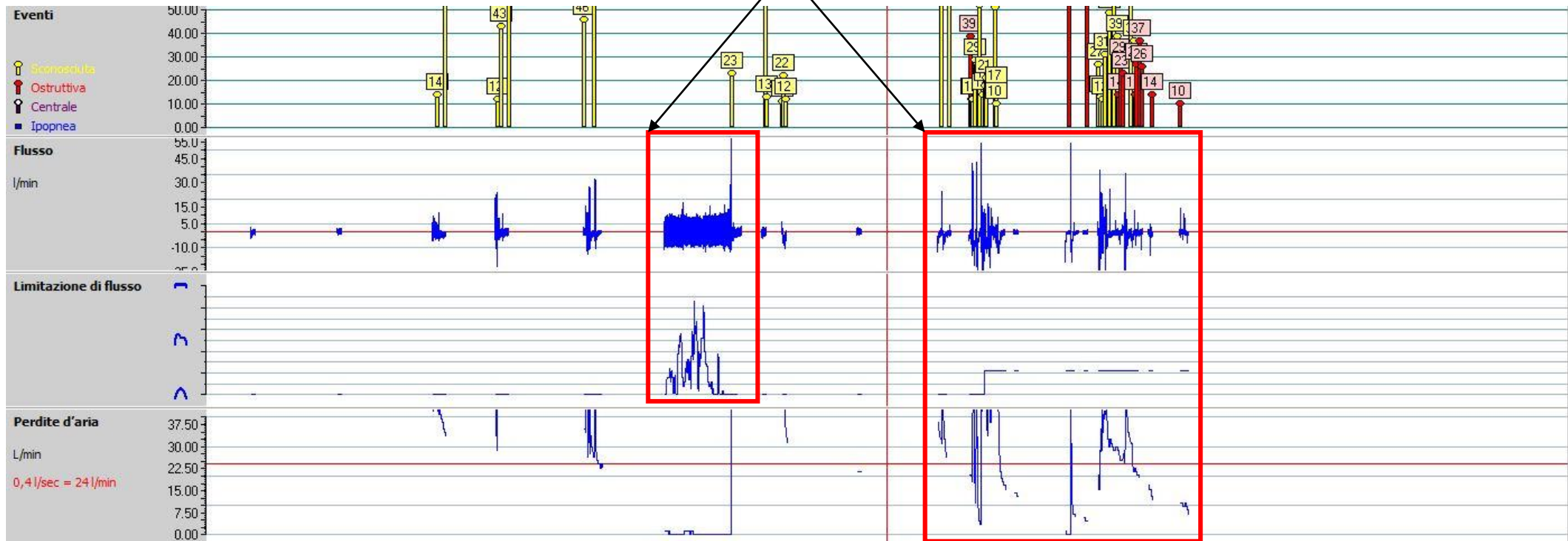
- Supported with a CPAP of 6 cmH₂O since 2015
- Patient skipped all follow-up hospitalizations until 2018

Built-In Software analysis (CPAP 6 cmH₂O)



Built-In Software analysis (CPAP 6 cmH₂O)

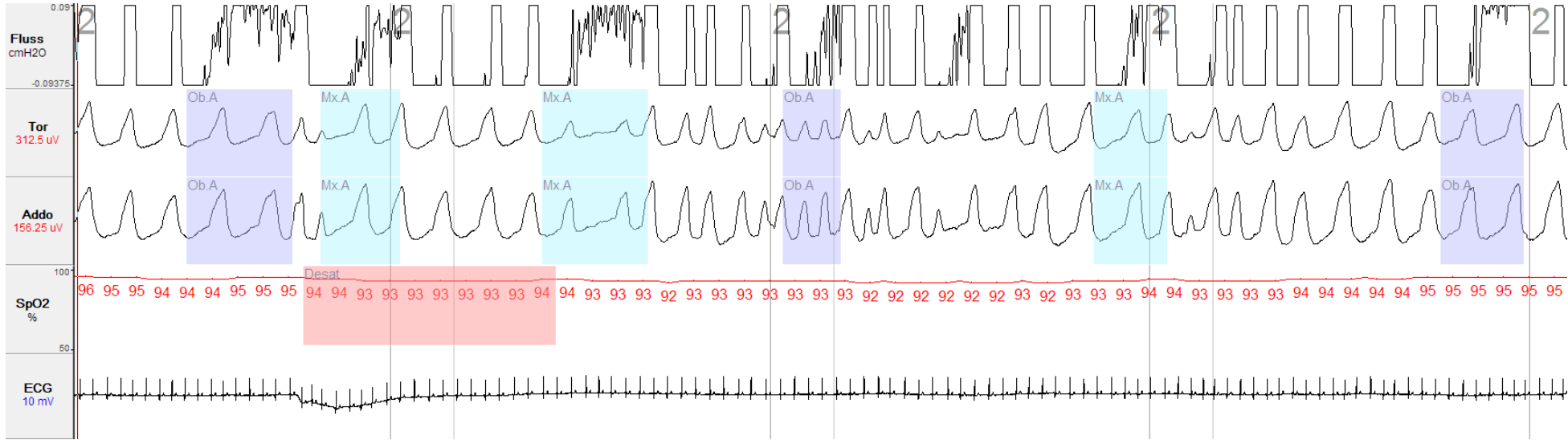
Night-time short usage periods are accompanied by strong air leaks and flow limitations.



PSG study (CPAP 6 cmH₂O)

PSG: presence of obstructive and mixed apneas events

MOAHI: 12.1
SpO₂ med: 93%
Min SpO₂ : 79%
SpO₂ < 90% : 12.4 (time %)



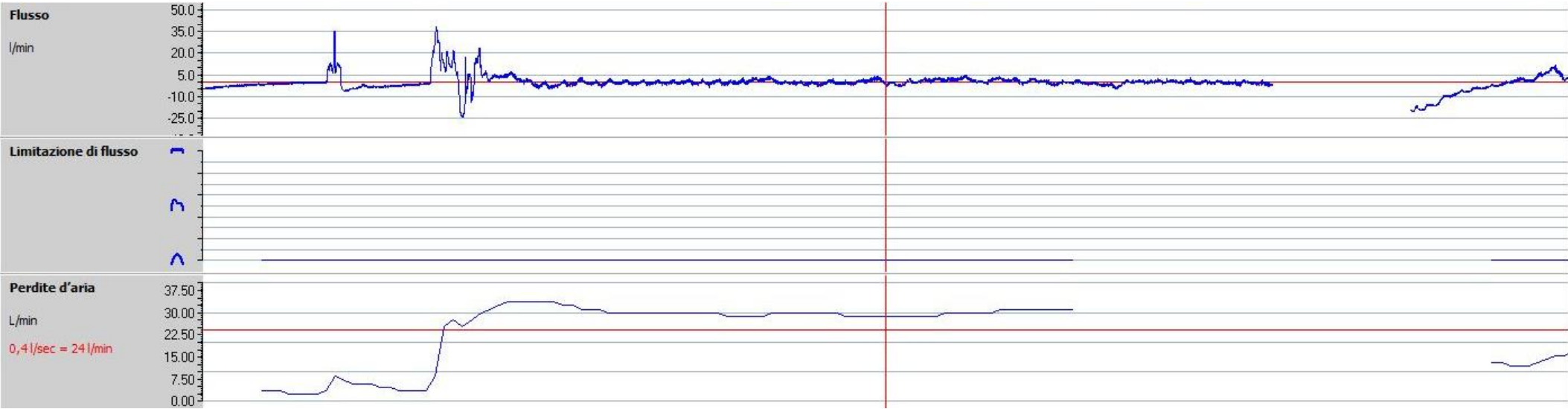
What to do:

- Increase CPAP level?
- Decrease CPAP level?
- Change mask?
- Switch to Bi-level setting?
- Other...?

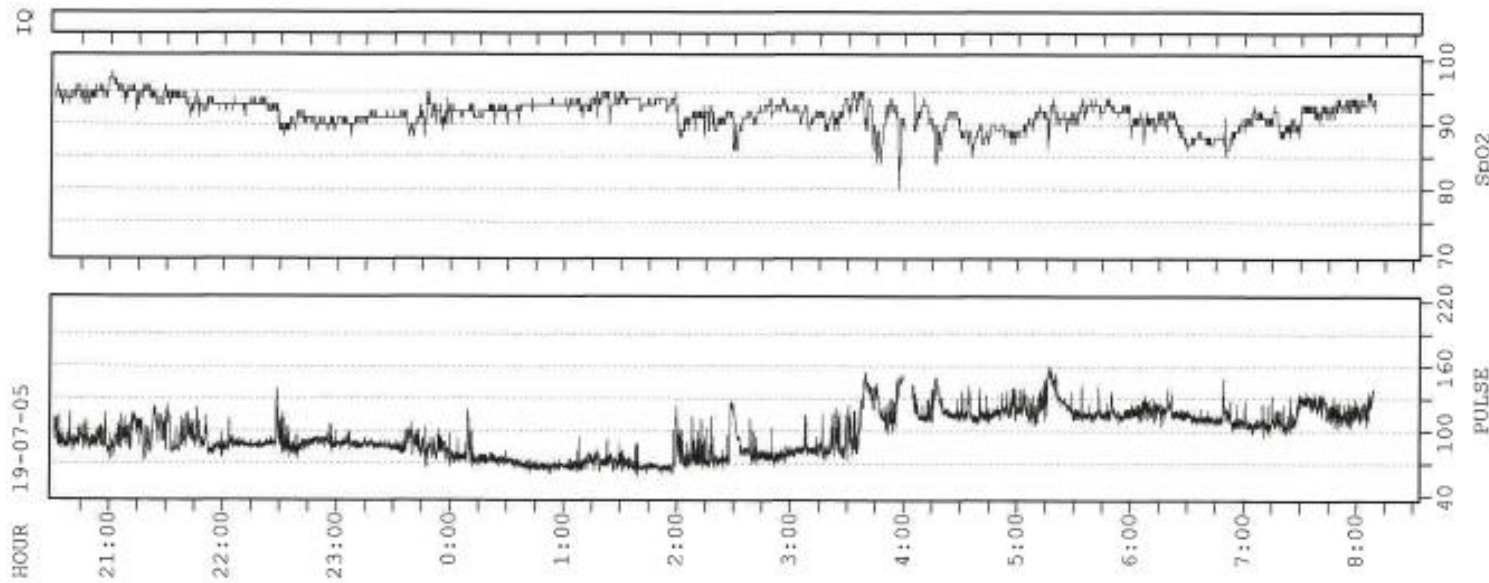
What to do:

- Increase CPAP level? → CPAP was increased to 7 cmH₂O
- Decrease CPAP level?
- Change mask? → The patient grew up since last evaluation, therefore the mask did not correctly fit anymore. A bigger size nasal mask was then provided.
- Switch to Bi-level setting?
- Other...?

Built-In Software analysis (CPAP 7 cmH₂O)



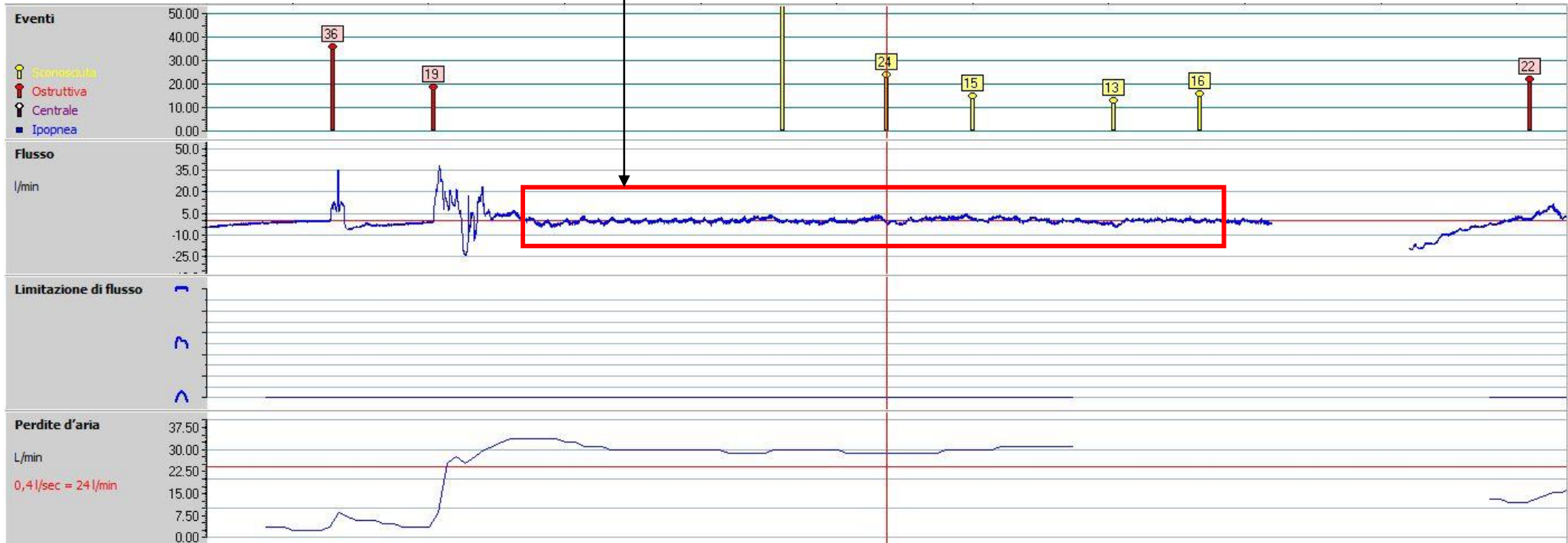
Pulse oximetry + tcPCO₂ (CPAP 7 cmH₂O)



- Mean SpO₂ : 94.7%
- Min SpO₂ : 80%
- SpO₂ < 90% : 5.4 (time %)
- ODI₀ : 6.7
- tcPCO₂ min (mmHg) 41.0 mmHg
- tcPCO₂ max (mmHg) 48.2 mmHg
- tcPCO₂ mean (mmHg) 44.2 mmHg
- tcPCO₂ > 50 mmHg (% sleep time) 0.0

Built-In Software analysis (CPAP 7 cmH₂O)

Adherence to CPAP therapy during the night increased, but there were still periods with low flow and strong air leaks



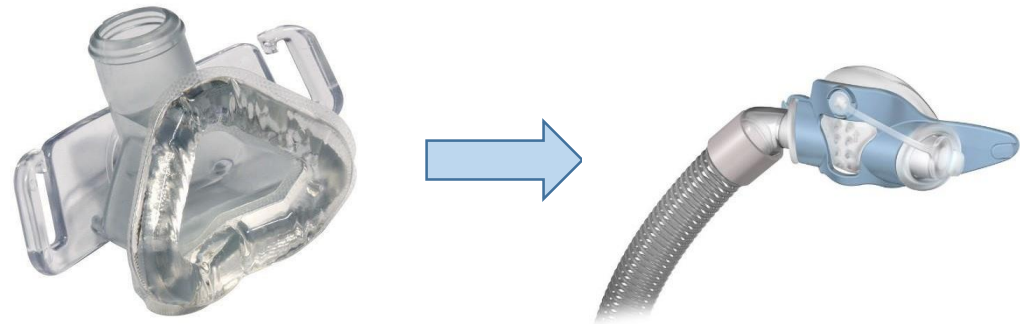
What to do:

- Increase CPAP level?
- Decrease CPAP level?
- Change mask?
- Switch to Bi-level setting?
- Other...?

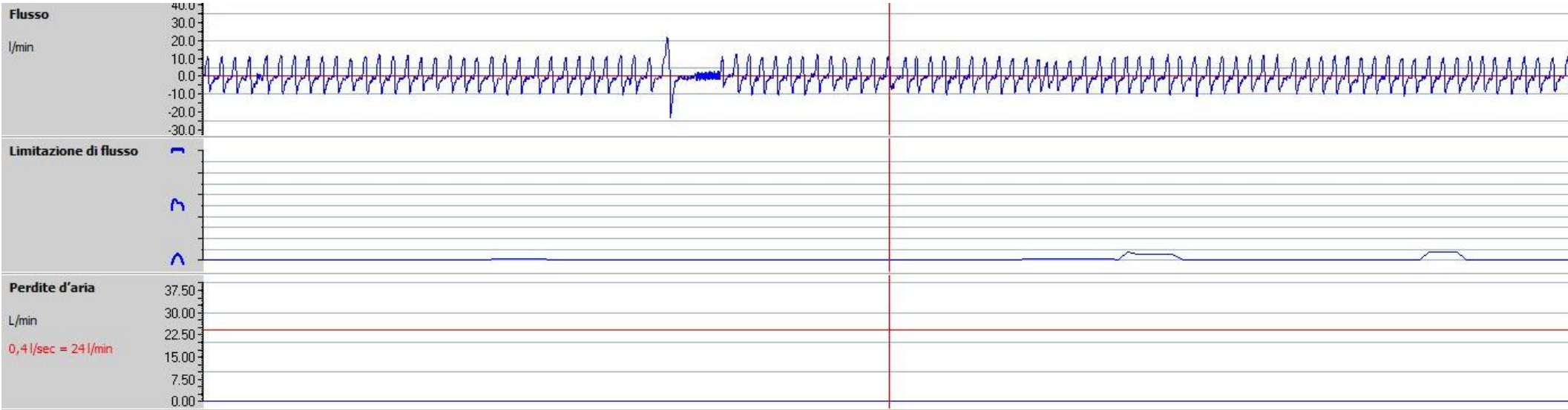
What to do:

- Increase CPAP level?
- Decrease CPAP level?
- **Change mask?**
- Switch to Bi-level setting?
- Other...?

The patient still showed a scarce tolerance toward the mask. A lighter model was then provided.

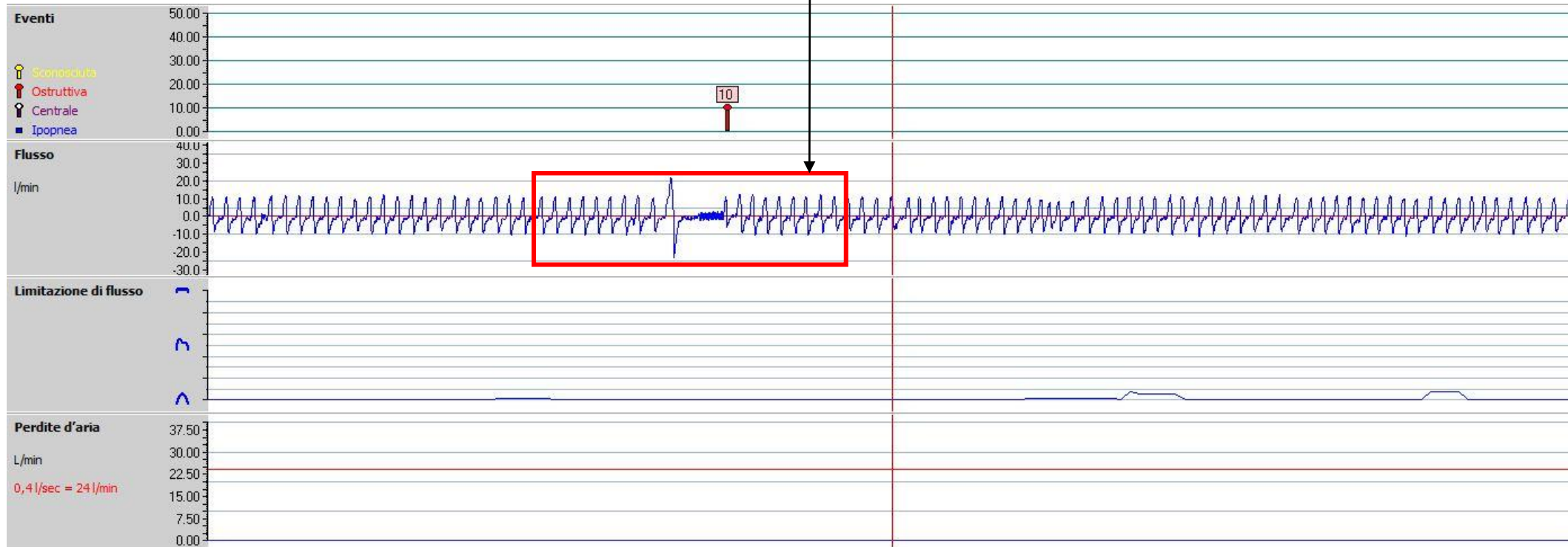


Built-In Software analysis (CPAP 7 cmH₂O)



Built-In Software analysis (CPAP 7 cmH₂O)

Adherence to CPAP therapy significantly improved, but sporadic obstructive apneas were still present



What to do:

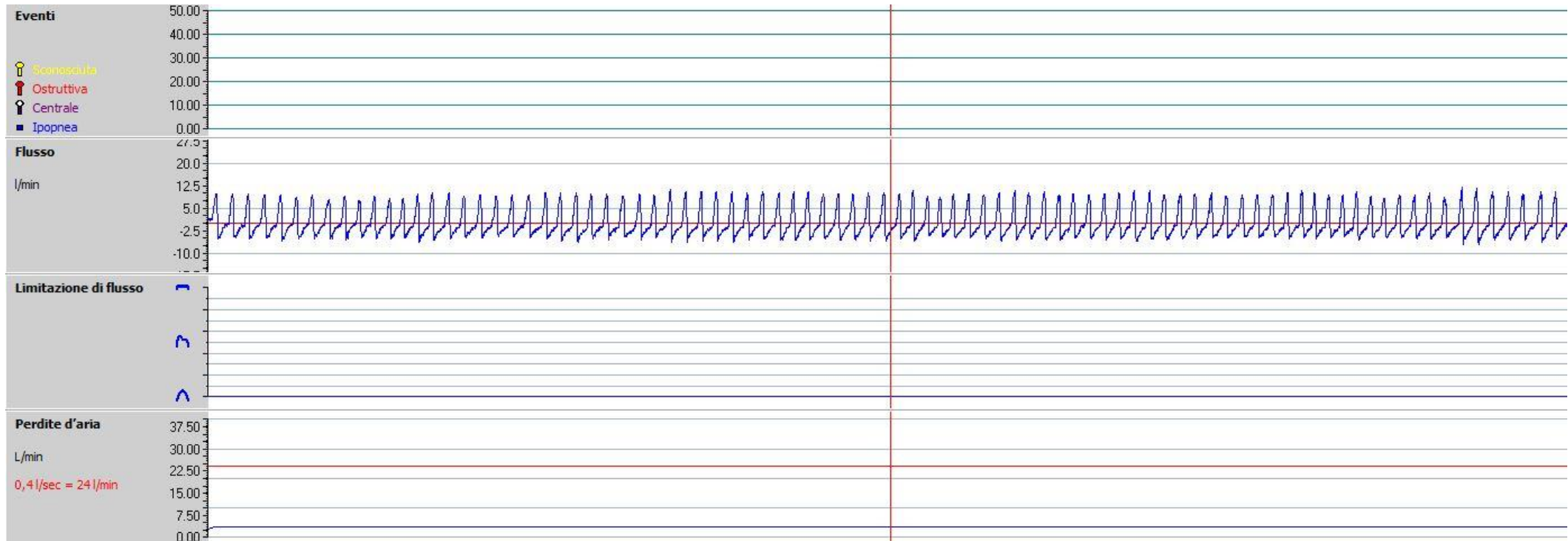
- Increase CPAP level?
- Decrease CPAP level?
- Change mask?
- Switch to Bi-level setting?
- Other...?

What to do:

- Increase CPAP level? → CPAP was increased to 8 cmH₂O
- Decrease CPAP level?
- Change mask?
- Switch to Bi-level setting?
- Other...?

Built-In Software analysis (CPAP 8 cmH₂O)

BIS analysis showed good adherence, no strong air leaks and no flow limitations



PSG study (CPAP 8 cmH₂O)

PSG study showed almost no residual events

MOAHI: 1.8
SpO₂ med: 96%
Min SpO₂ : 90%
SpO₂ < 90% : 0.0 (time %)

