



**Rimini, 9 marzo 2008**

**Joint meeting GISMAD-SIGE-AIGO-SIED**

*Nuove metodologie di studio della motilità digestiva: dalla ricerca  
alle applicazioni cliniche*

**pHmetria wireless e pH-impedenziometria**

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**OSPEDALE MAGGIORE POLICLINICO, MANGIAGALLI E REGINA ELENA**

**Fondazione IRCCS - Istituto di Ricovero e Cura a Carattere Scientifico di natura pubblica**

**24h impedance-pH monitoring**  
**48-96h wireless pH monitoring (Bravo)**  
**Are they really useful?**

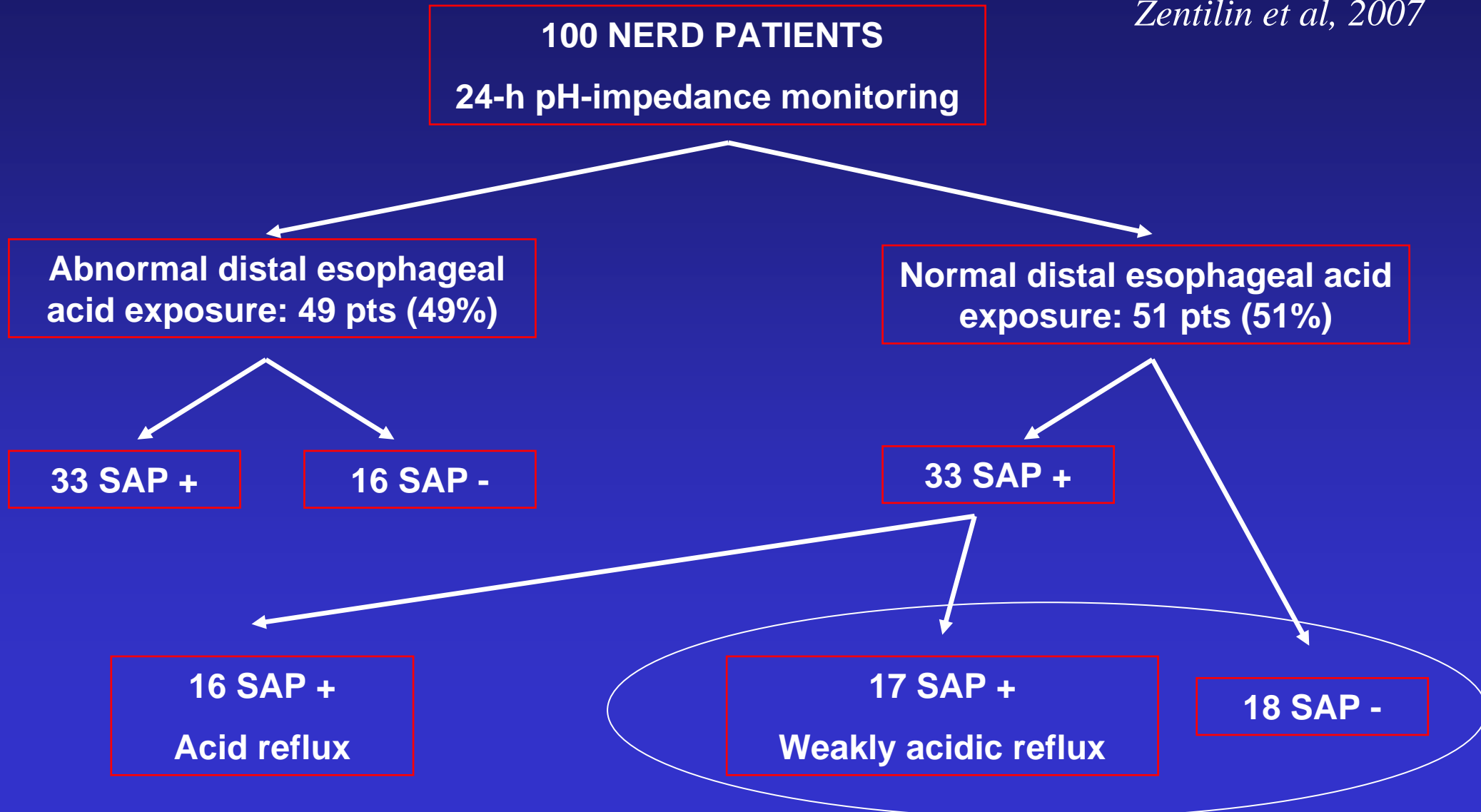
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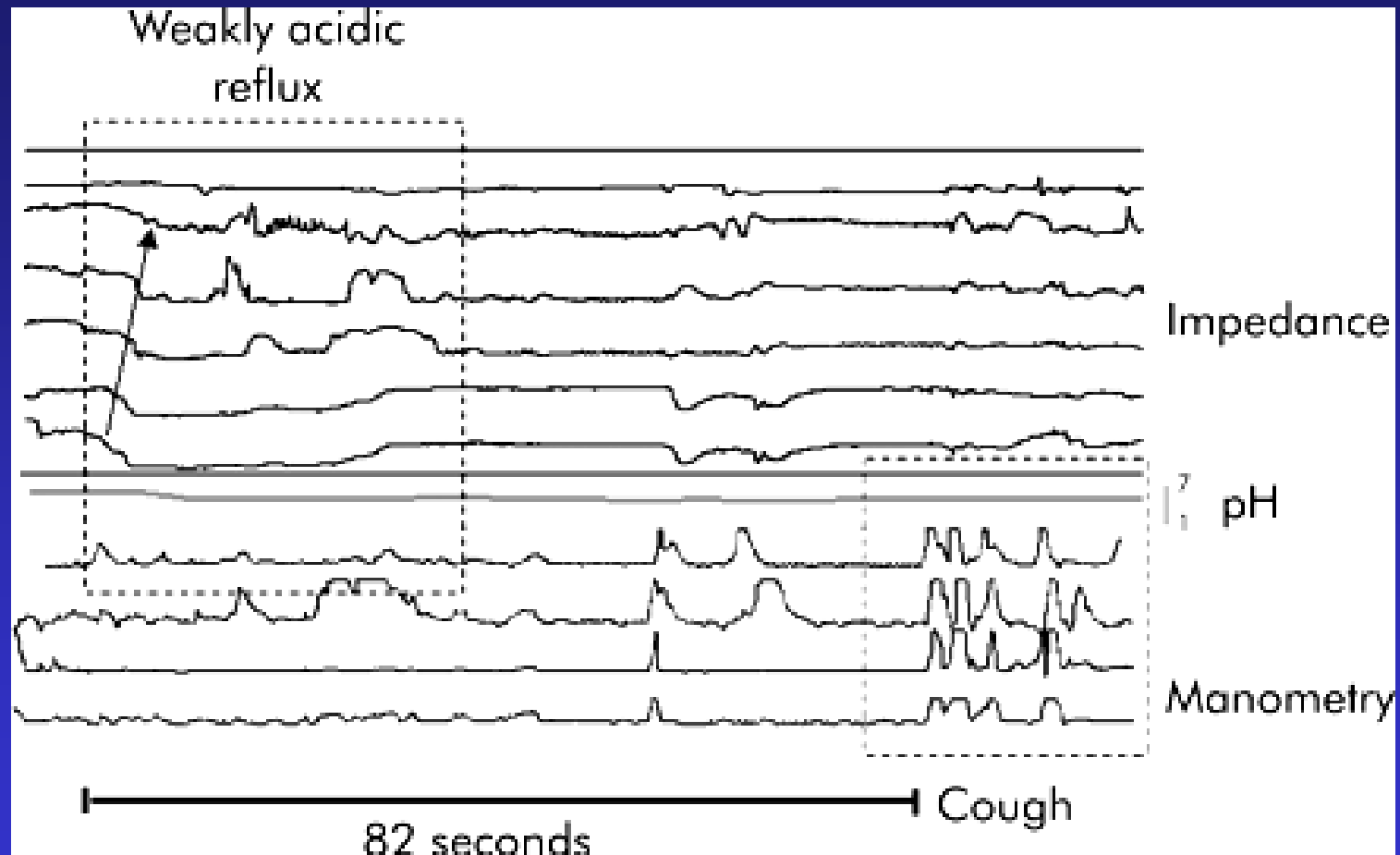
# SYMPTOMATIC WEAKLY ACIDIC REFLUX IN NERD WITH TYPICAL SYMPTOMS

*Zentilin et al, 2007*



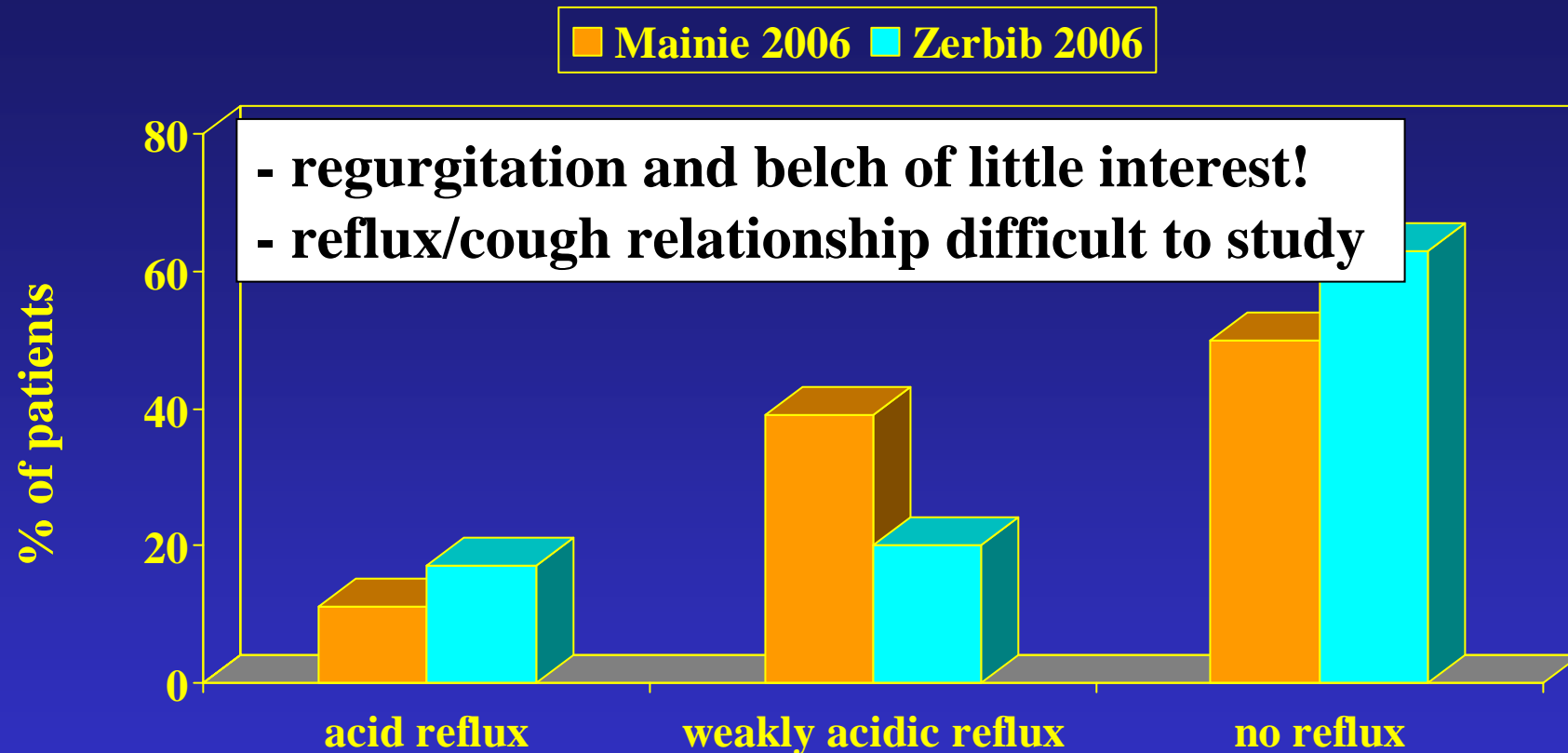
# WEAKLY ACIDIC REFLUX AND CHRONIC UNEXPLAINED COUGH

*Blondeau et al, 2007*



**In 17/100 patients: cough preceded by weakly acidic reflux**

# SYMPTOMATIC WEAKLY ACIDIC REFLUX ON PPI IN PTS REFRACTORY TO PPIs BD



- time window for symptoms: 2 or 5 min after reflux?
- Symptom Association Probability (SAP) or Symptom Index (SI)?

**Limitation of 24 h studies: 15-45% of patients will not have symptoms!!**

*Bravi et al, 2005; Mainie et al, 2006; Zerbib et al, 2006*

# Is weakly acidic reflux clinically relevant in GERD patients refractory to PPIs?

## Fundoplication

Uncontrolled data in 14 patients support this hypothesis

*Mainie et al, 2006*

Controlled data, bigger numbers and longer follow-up are awaited!

Anti-transient LOS relaxation therapy will be useful to answer this question

24h impedance-pH monitoring

**48-96h wireless pH monitoring (Bravo)**

Are they really useful?

## **Why a wireless system allowing prolonged pH recording?**

**Although 24h catheter-based pH monitoring is often considered the gold standard for GERD diagnosis, negative results occur in 25% of pts with oesophagitis and in 35-50% of those with NERD**

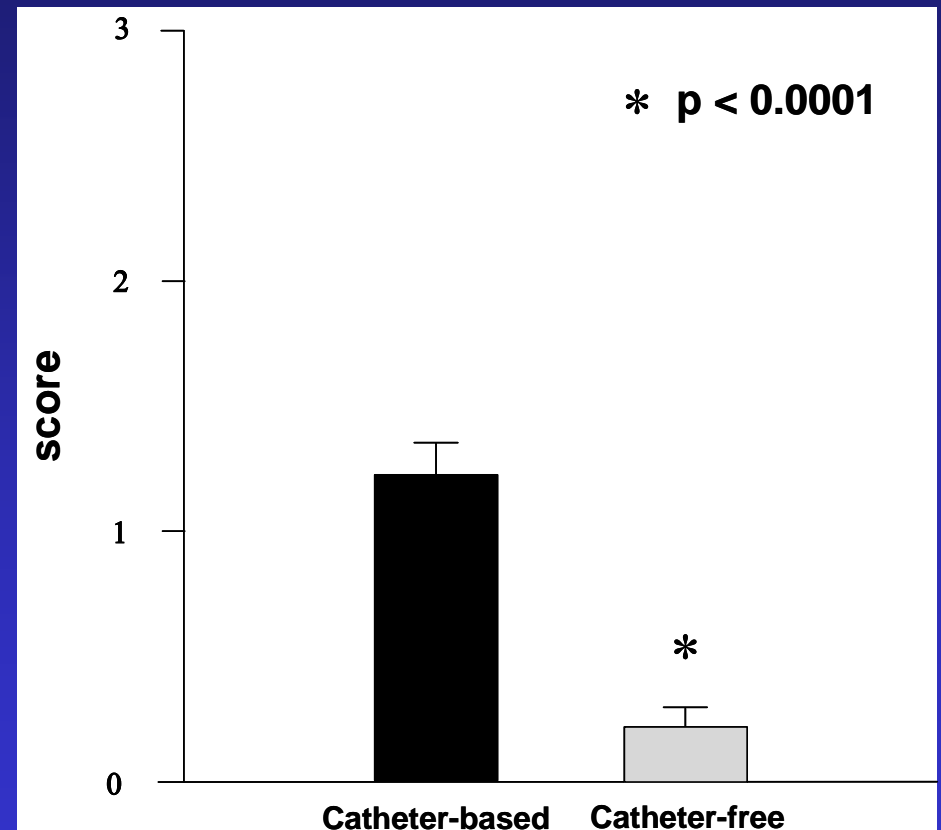
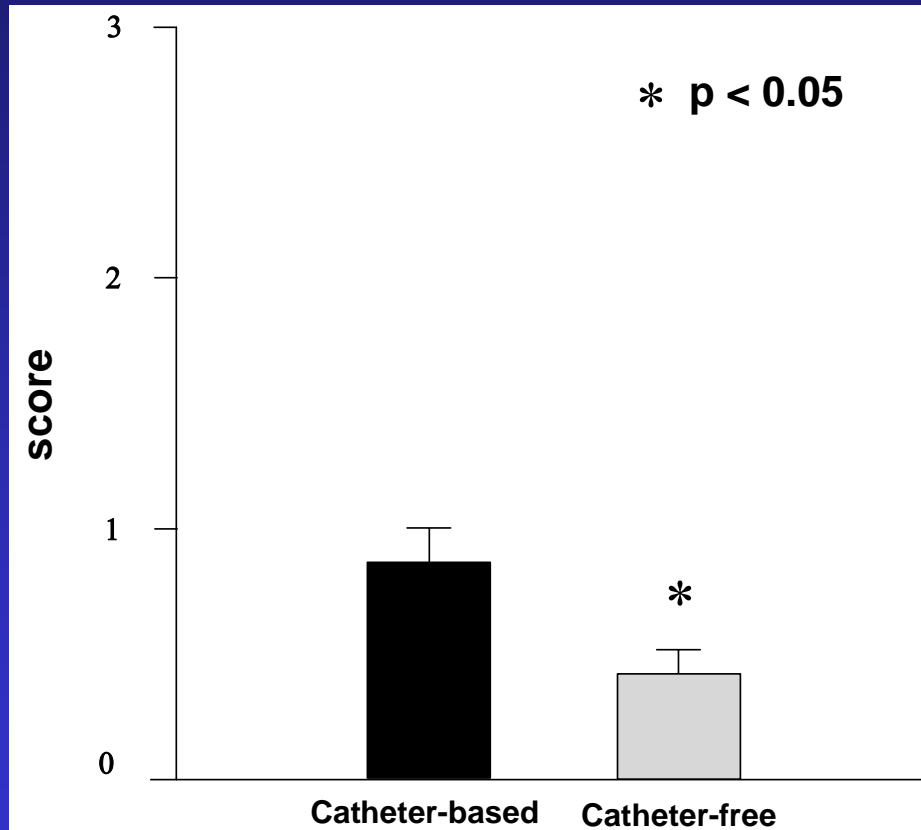
**Up to 50% of patients will not have symptoms during the 24 h study**

**Patients often report discomfort and restriction of usual activities, which may negatively impact on accuracy of pH monitoring.**

*Fass et al, Dig Dis Sci 1999*

# Limitations of food intake and daily activities

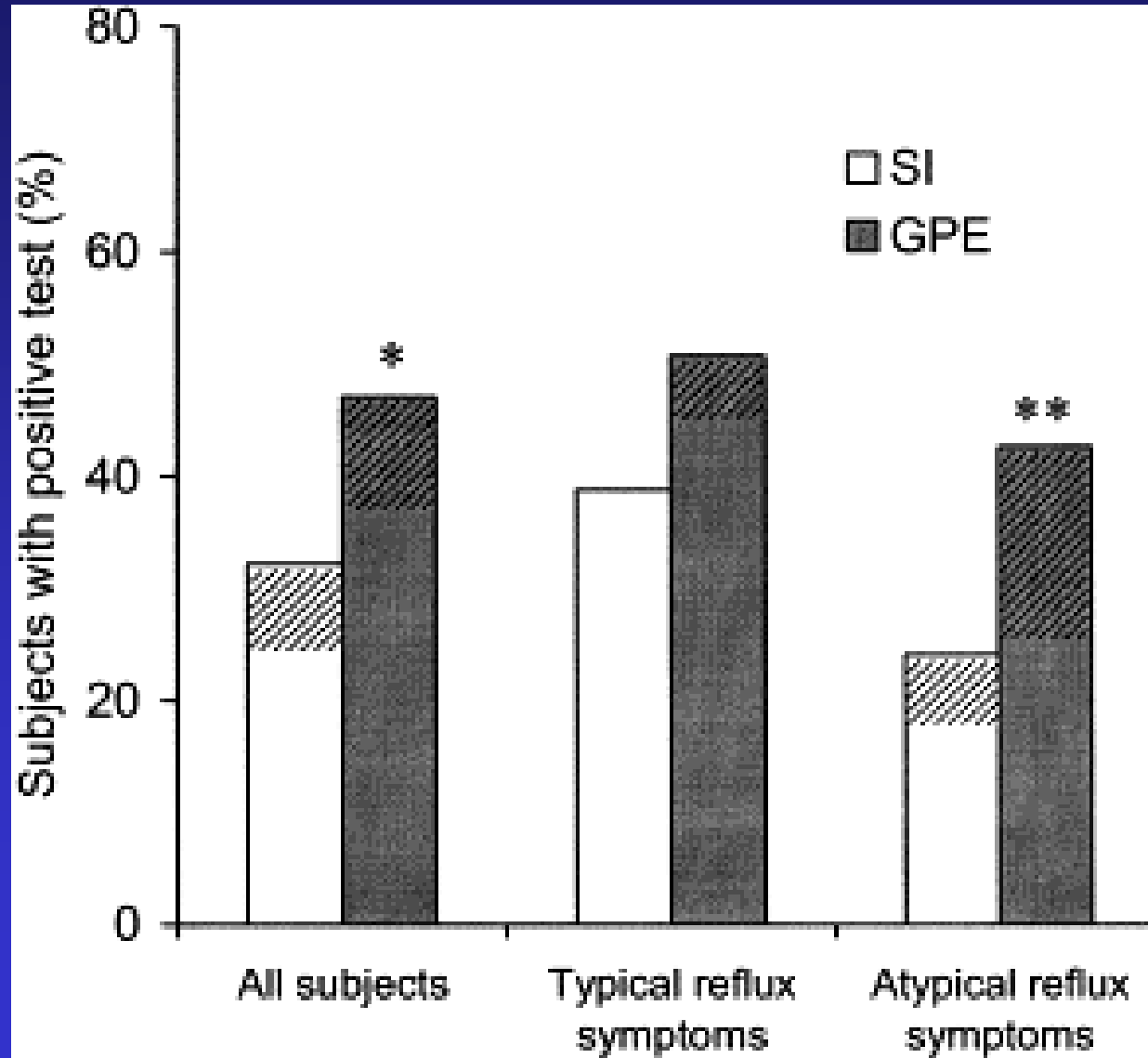
*Grigolon et al, 2007*



**Less discomfort during wireless pH monitoring**

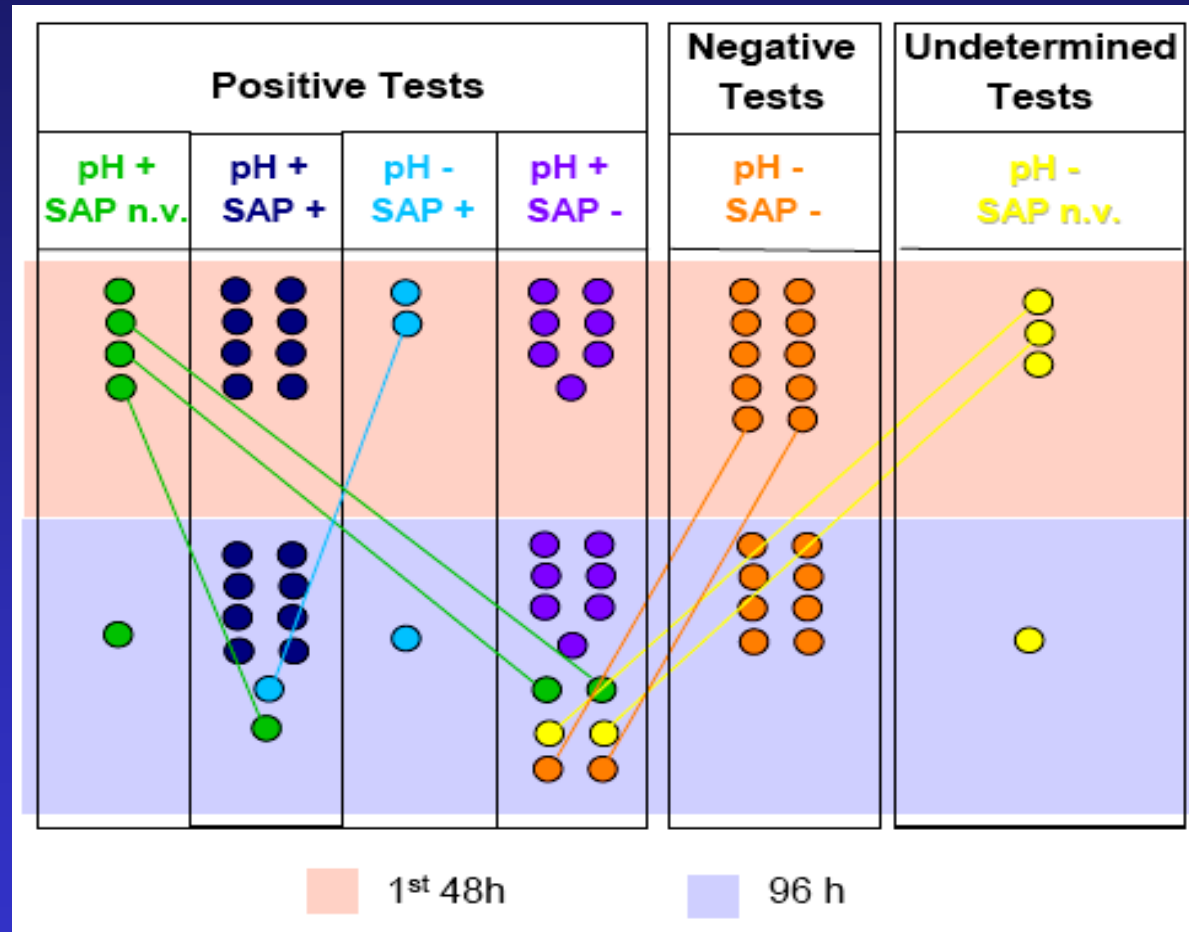
# Value of 48h recording time in establishing reflux-symptom association

*Prakash et al, 2005*



# Is 96h better than 48h wireless pH monitoring?

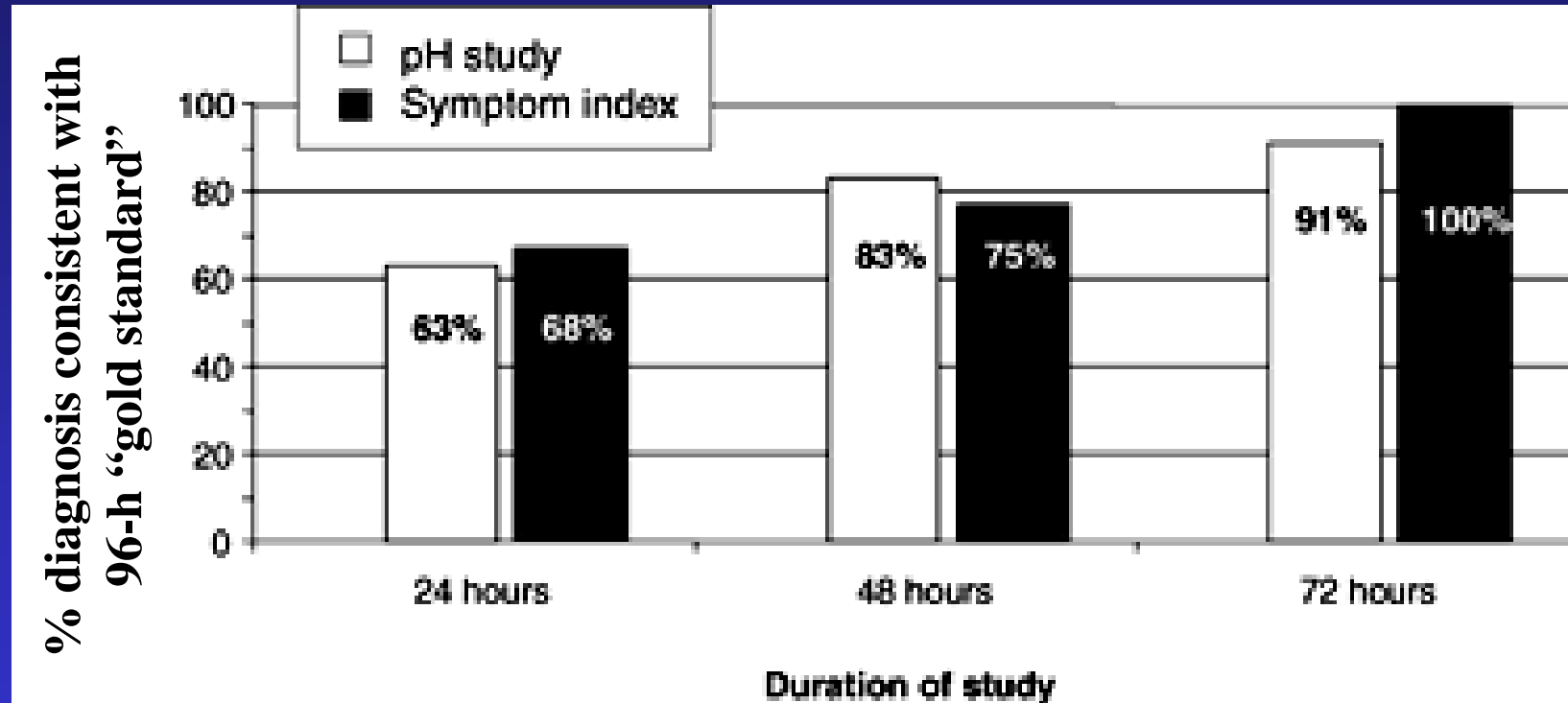
*Grigolon et al, 2007*



In 33/35 patients a symptom/reflux association was possible during 96h vs 21 patients at 24h and 28 patients at 48h

# Diagnostic impact of duration of pH recording

*Scarpulla et al, 2007*

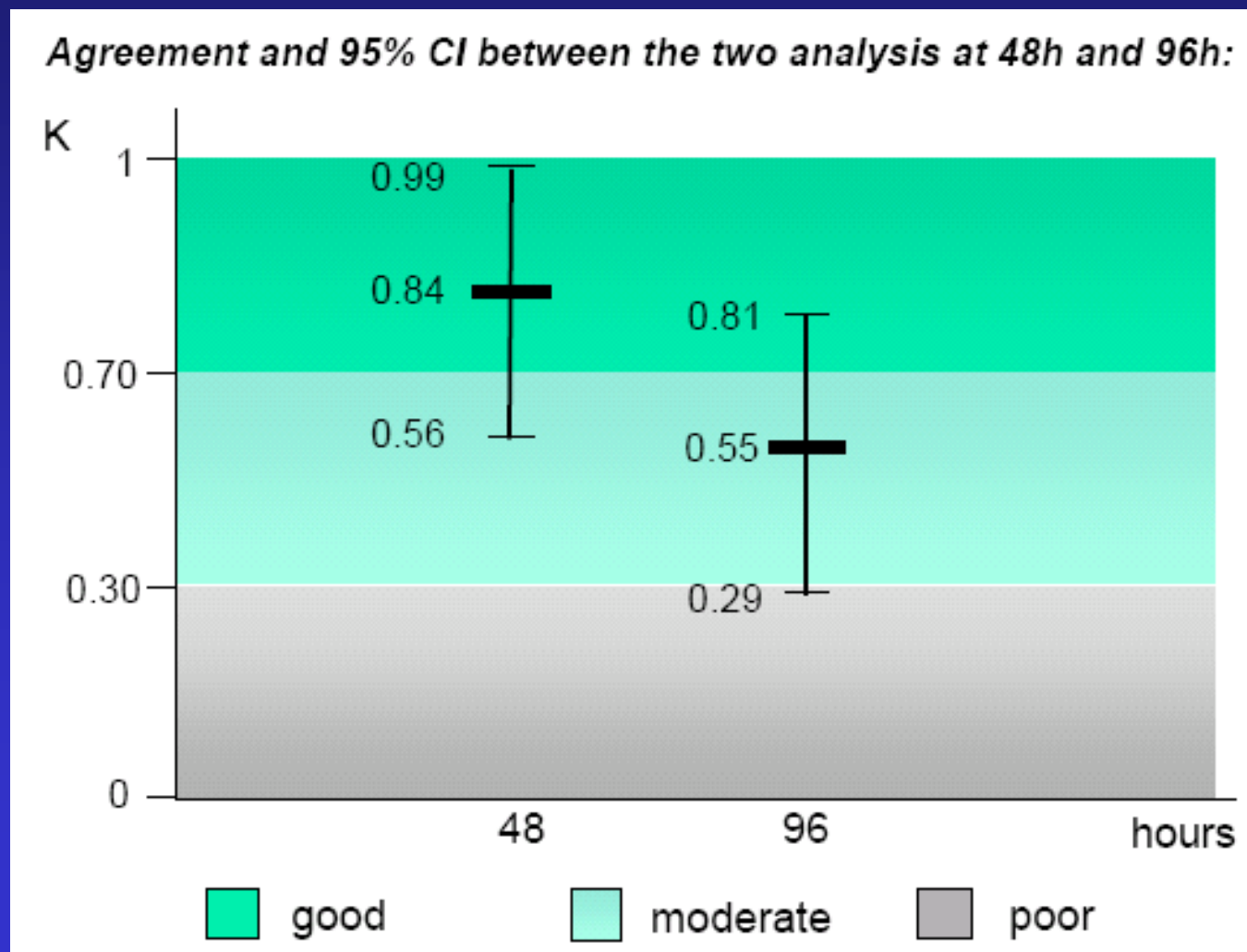


Useful to prolong pH monitoring to 96h in pts with a negative or undetermined test at 48h

# PATHOLOGIC ACID EXPOSURE: WHICH DEFINITION DURING WIRELESS PH MONITORING?

*Grigolon et al, 2007*

Worst day or mean exposure during 48 or 96 hrs?

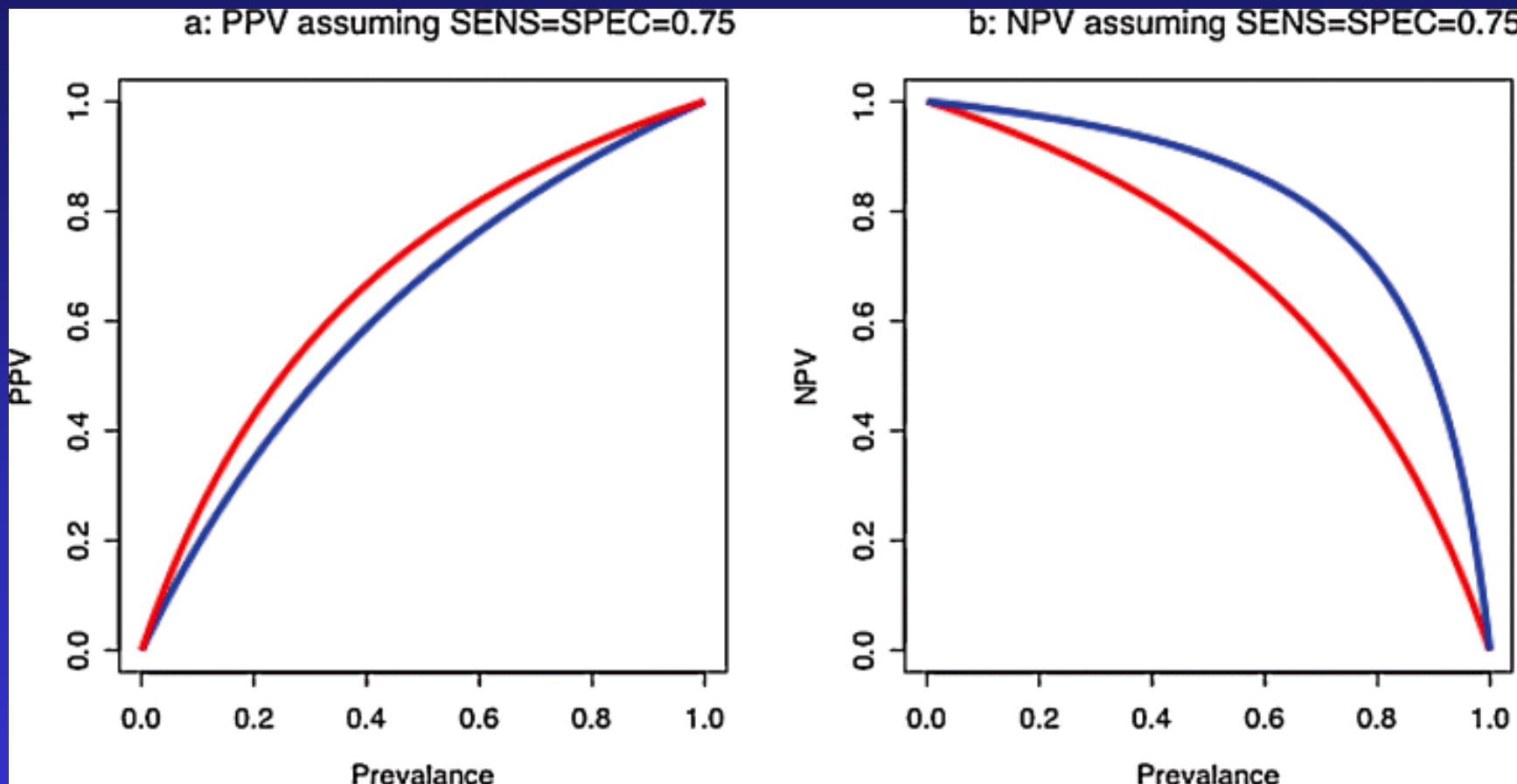


**24h impedance-pH monitoring**  
**48-96h wireless pH monitoring (Bravo)**

**the emphasis of our studies is on positive diagnosis  
of GERD, however.....**

# Single test (red) vs dual test (blue): careful about false positives!

*Connor et al, 2006*



Once the patient has two negative tests, we are far more certain that he is truly negative!!

# IMPEDANCE-pH and WIRELESS pH MONITORING WHICH IS THE FUTURE?

*Gonzales-Guillaumin et al, 2007*

