

Intensivmedizin: Störungen der
Darmmotilität
Enteral nutrition in case of
hemodynamic compromise -
How I do it 5 min!
Saturday 19 June 2001, 10.30

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GI tract problems in the critically ill

Motility ↓

- Oesophageal anti-peristalsism
- Pyloric dysfunction
- Colon: Reduction of migrating complexes

Depression of GI tract by drugs

Altered permeability

Uncertain absorption capacity

Ischemic complications

NOBD

Intestinal motility disorders in ICU patients

Fruhwald et al, ICM, 2007:33:36

α 2-adrenoceptor agonists (clonidine, dexmedetomidine) – efficient sedatives

→ inhibit gastric, small bowel, and colonic motility

Catecholamines: dose-dependent inhibitory effect on small bowel motility

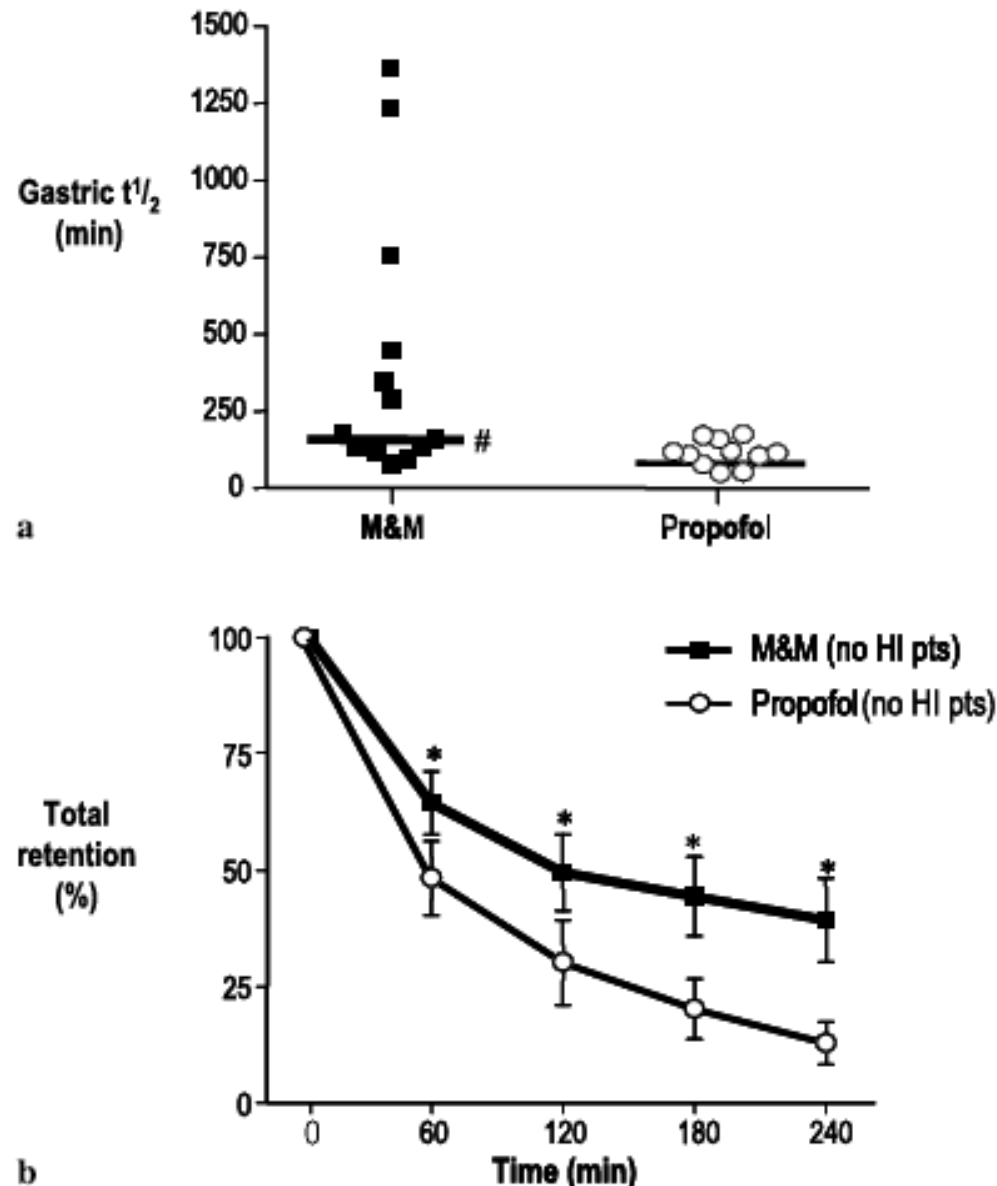
Opioids: inhibit GI transit by inhibiting neurotransmitter release favour constipation

Electrolytes: low K and Mg favour ileus

Starvation: delays gastric emptying

Effect of sedation on gastric emptying

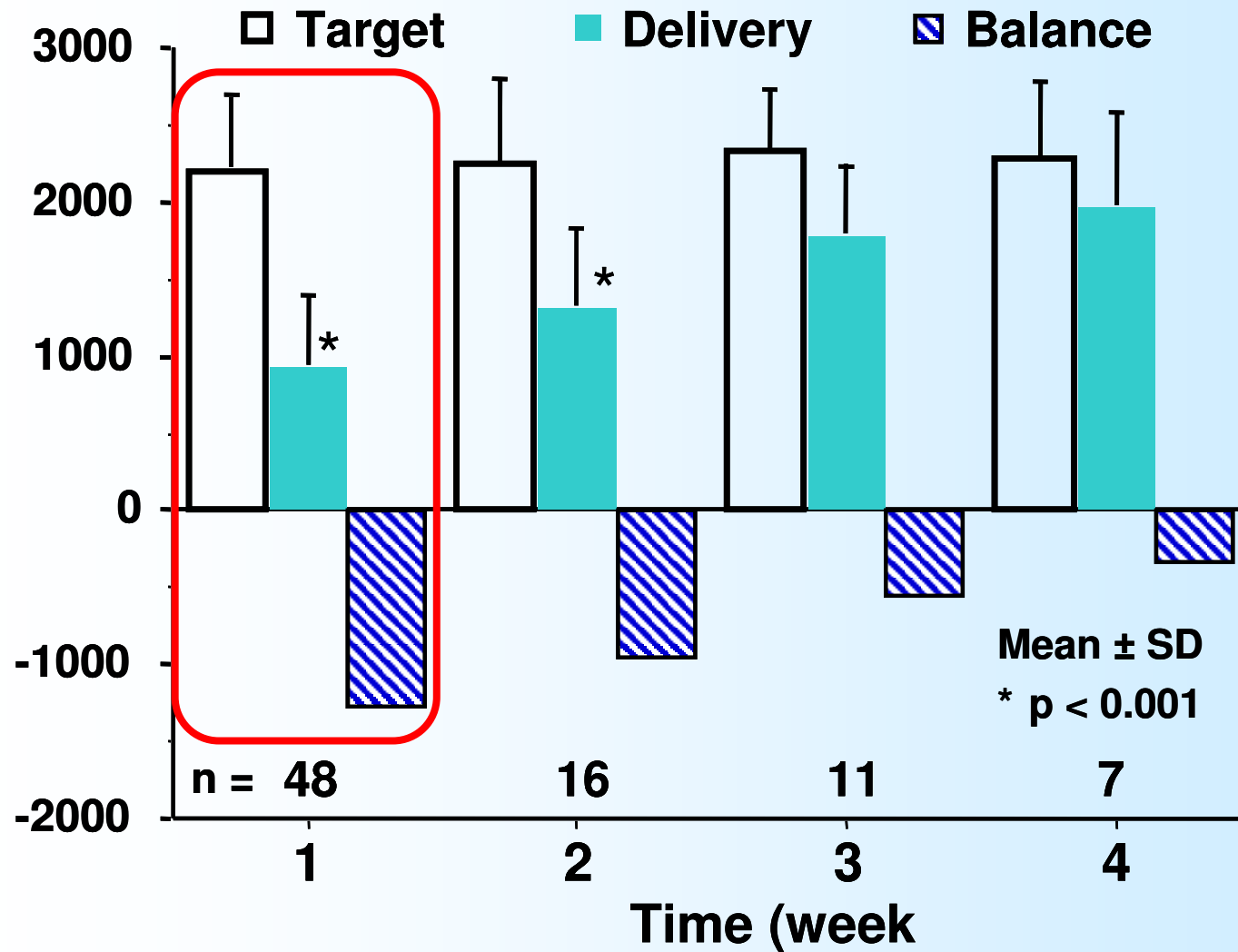
Nguyen et al, ICM, 2008:34:454



Gastric emptying as assessed by $t_{1/2}$ (**a**) and total gastric meal retention (**b**) in critically ill, non-head injured patients who were sedated with either morphine and midazolam (*M&M*; $n = 13$) or propofol ($n = 11$).

Impact of hypocaloric feeding on ICU outcome

Villet et al, Clinical Nutrition (2005) 24, 502



n = 48

Age:

57±16 yrs

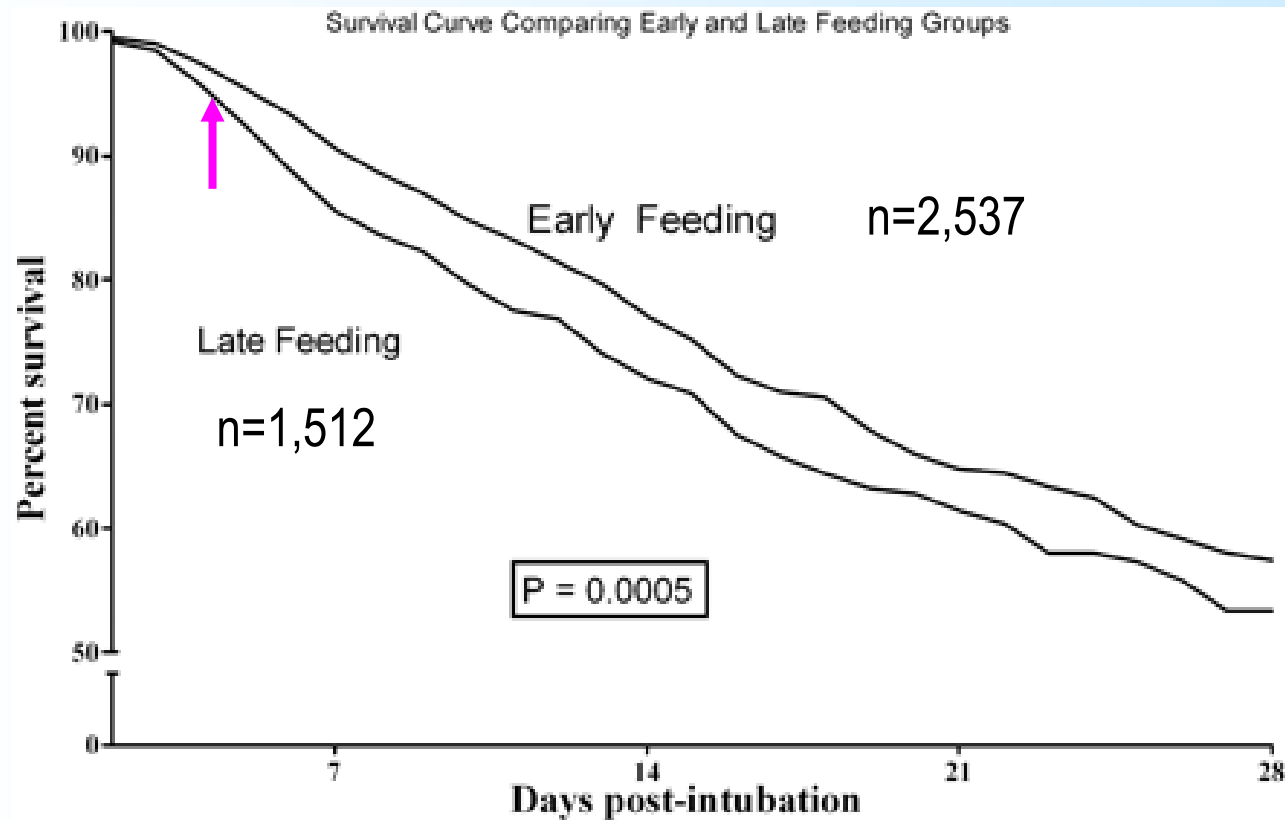
Study:

669 days

Mechanical ventilation for 11 ±8 days, ICU stay 15±9 days.
30-days mortality 38%.

Effects of Early Enteral Feeding on the Outcome of ICU Mechanically Ventilated Medical Patients

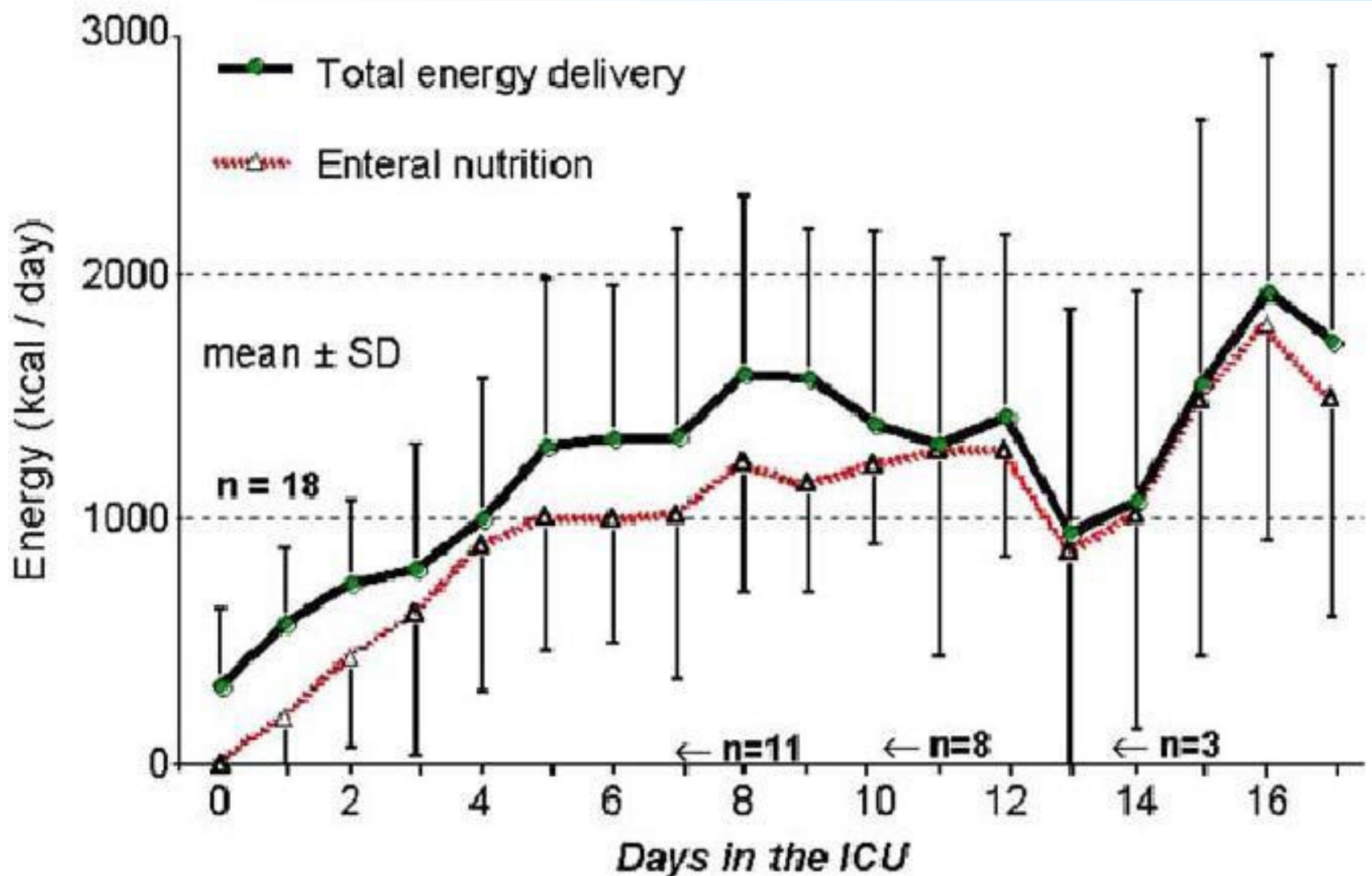
Artinian et al, Chest 2006; 129:960



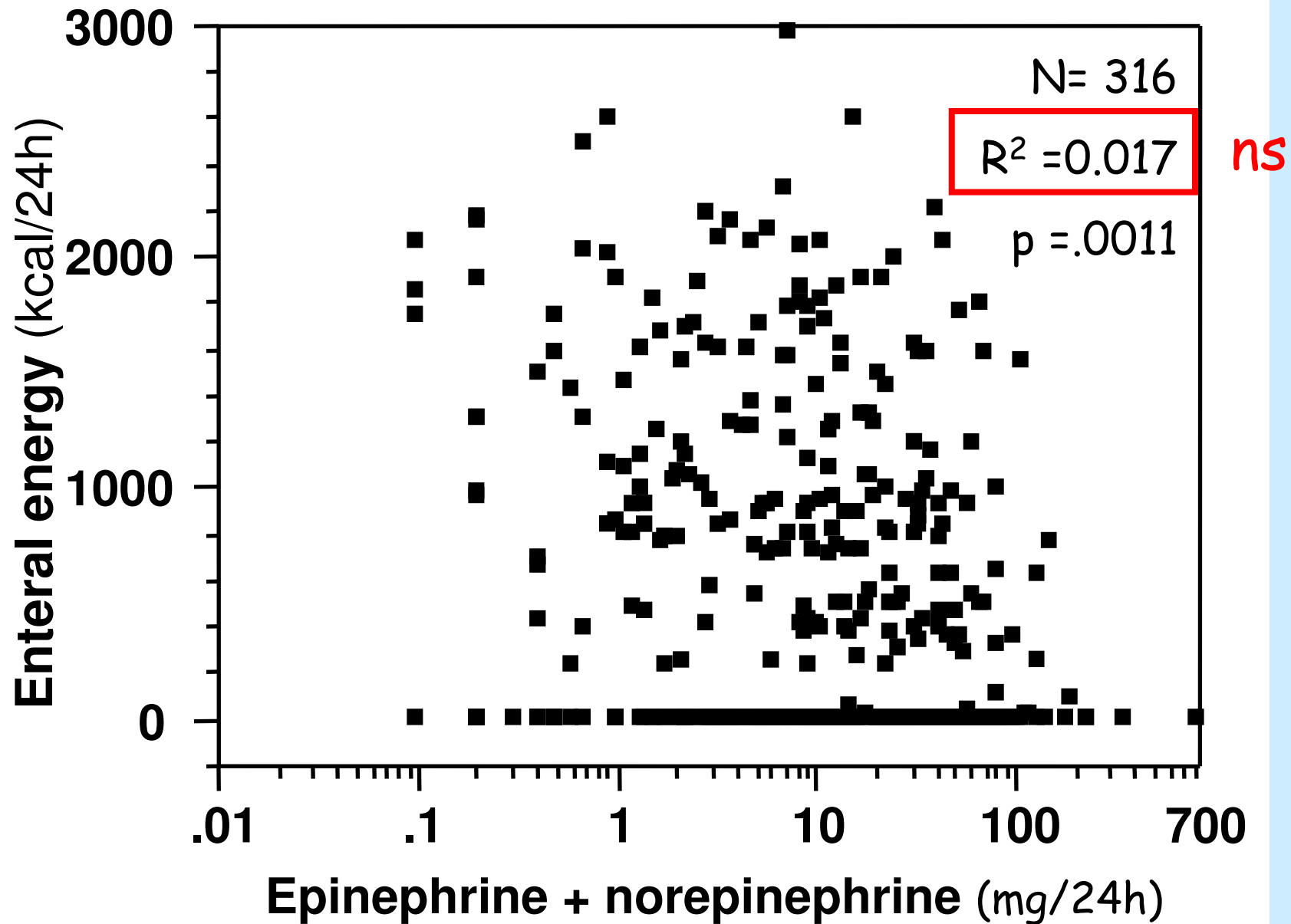
Kaplan-Meier estimates of survival among critically ill medical patients in early feeding group and in the late feeding group. Early feeding was associated with a significantly higher rate of survival ($p = 0.0005$ by log-rank test)

Enteral nutrition in hemodynamic failure

Berger et al, Clinical Nutrition (2005) 24, 124

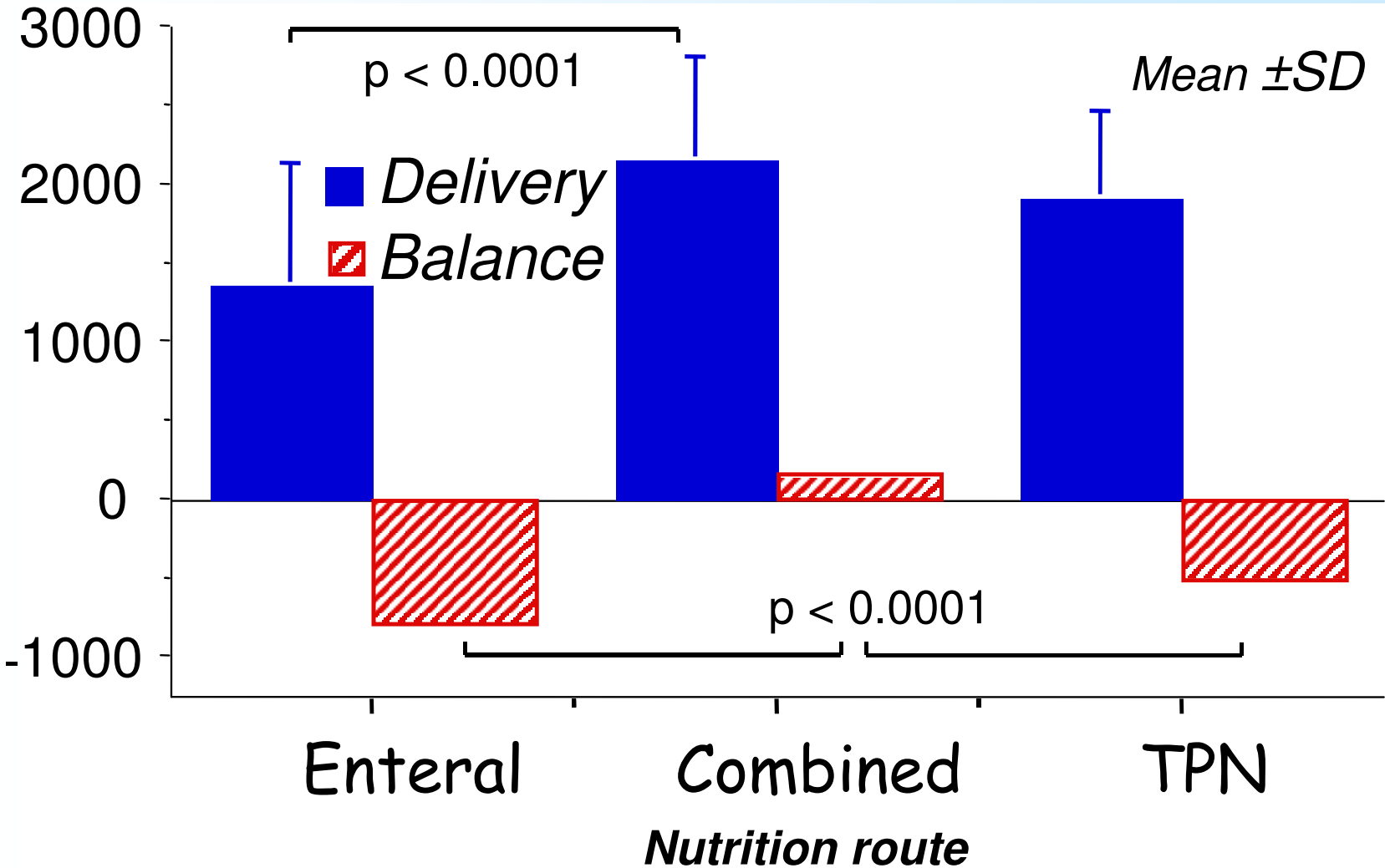


EN by vasopressor dose

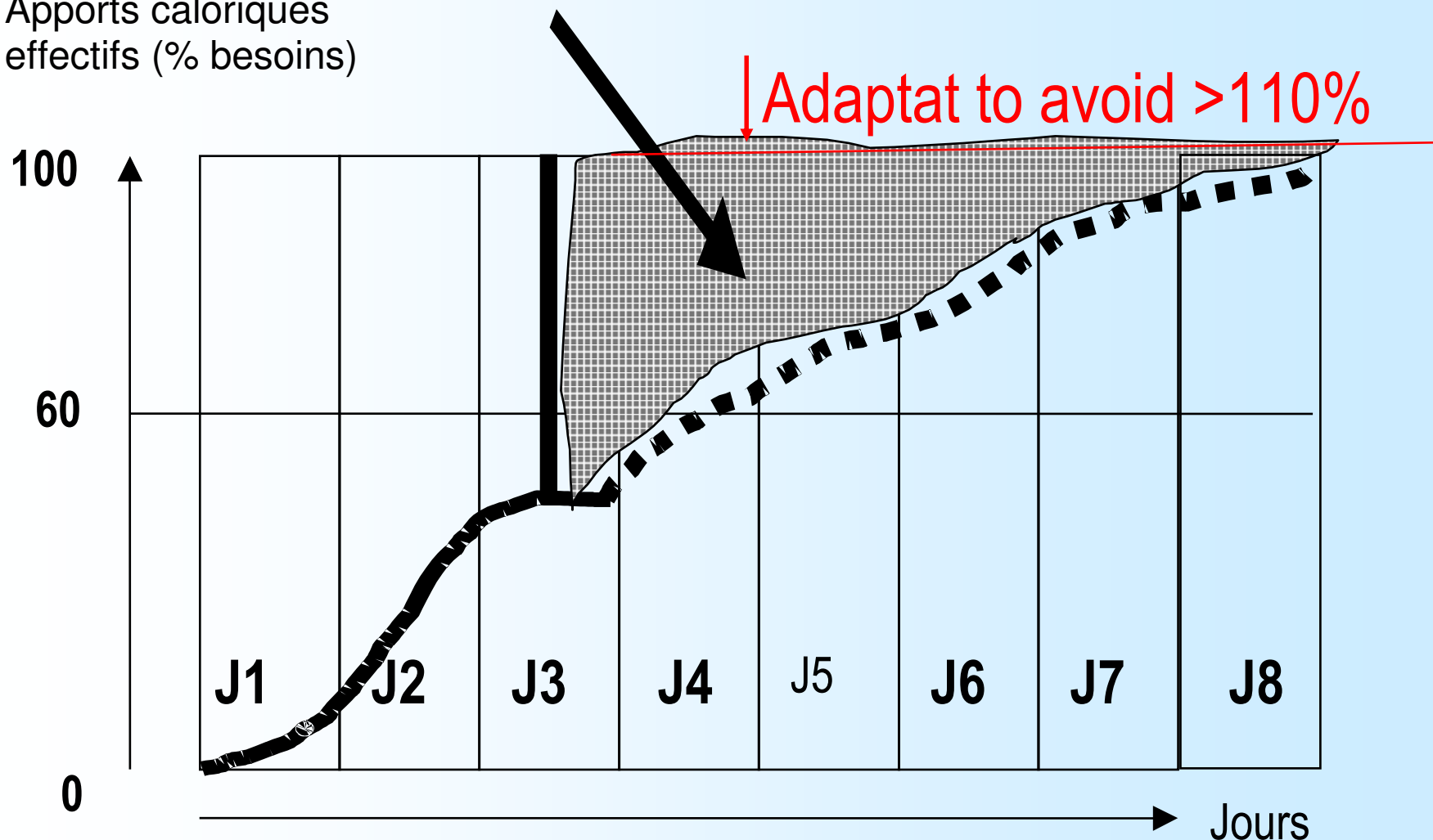


Mean daily energy delivery in patients with enteral or combined nutritional support

Villet et al, Clin Nutr 2005



Apports caloriques effectifs (% besoins)



Adaptat to avoid >110%

SMIA admission

Jours

EN and acute cardiovascular failure

Conclusions

EN may be started at low rate within 24-48 hrs

Start **EARLY** – within 24 hours

- maintains motility
- lowers mortality

Absorption not guaranteed

But

EN in unstable patients requires tight clinical monitoring – can precipitate ischemia

EN has established advantages, but .. frequently fails to cover energy requirements

Consider combined feeding