

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

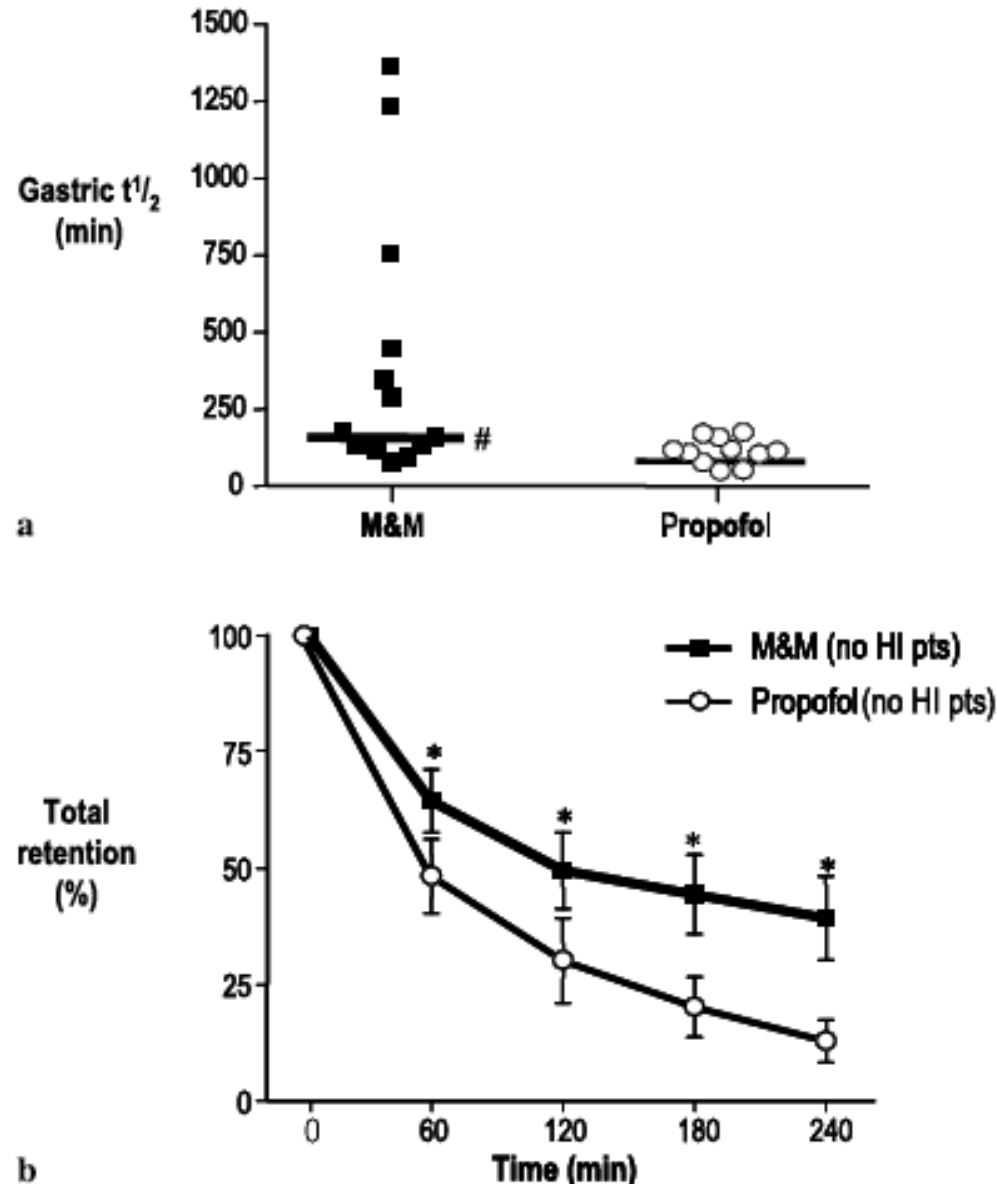
Opioids: inhibit GI transit by inhibiting neurotransmitter release favour constipation

Electrolytes: low K and Mg favour ileus

Starvation: delays gastric emptying

Effect of sedation on gastric emptying

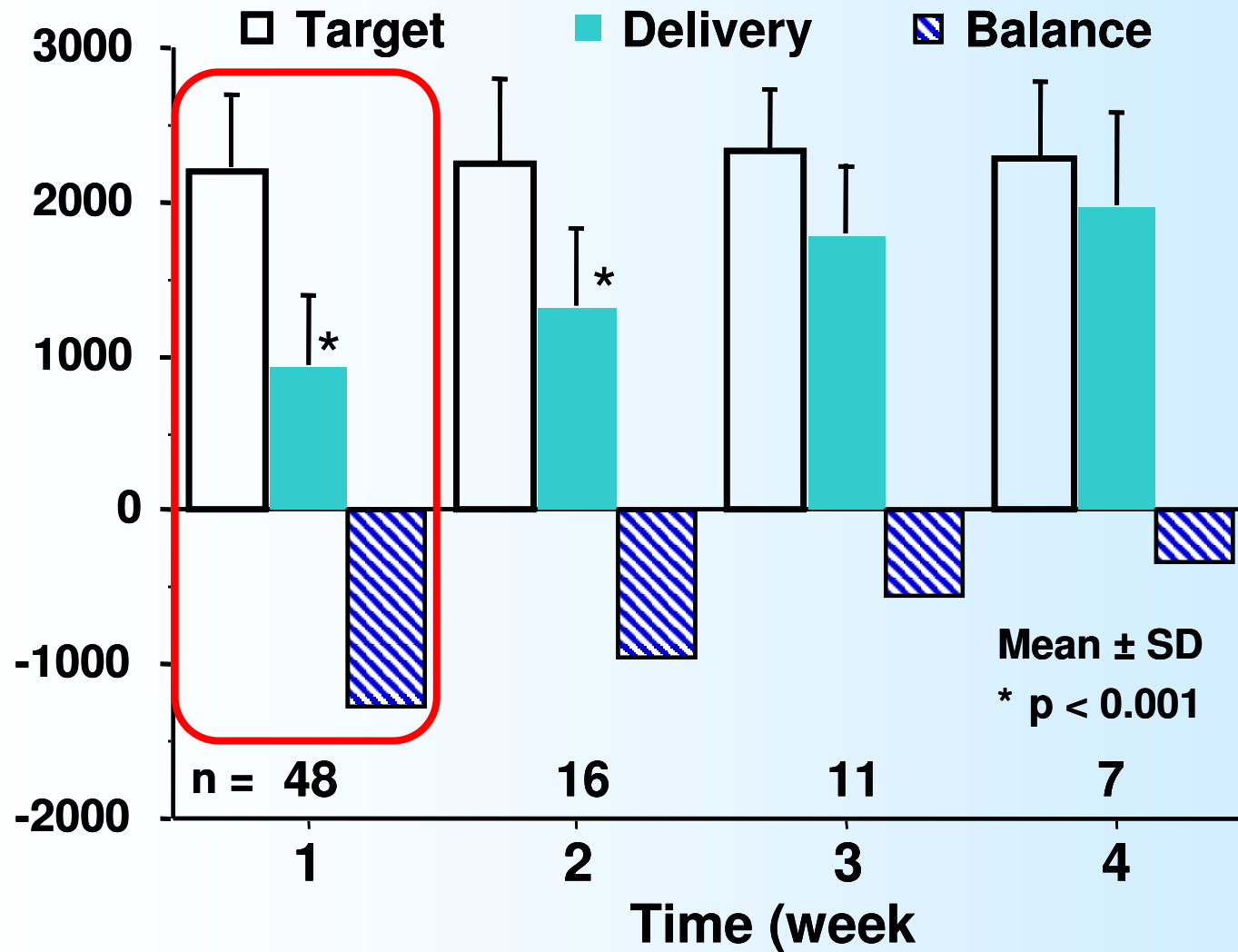
Nguyen et al, ICM, 2008:34:454



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

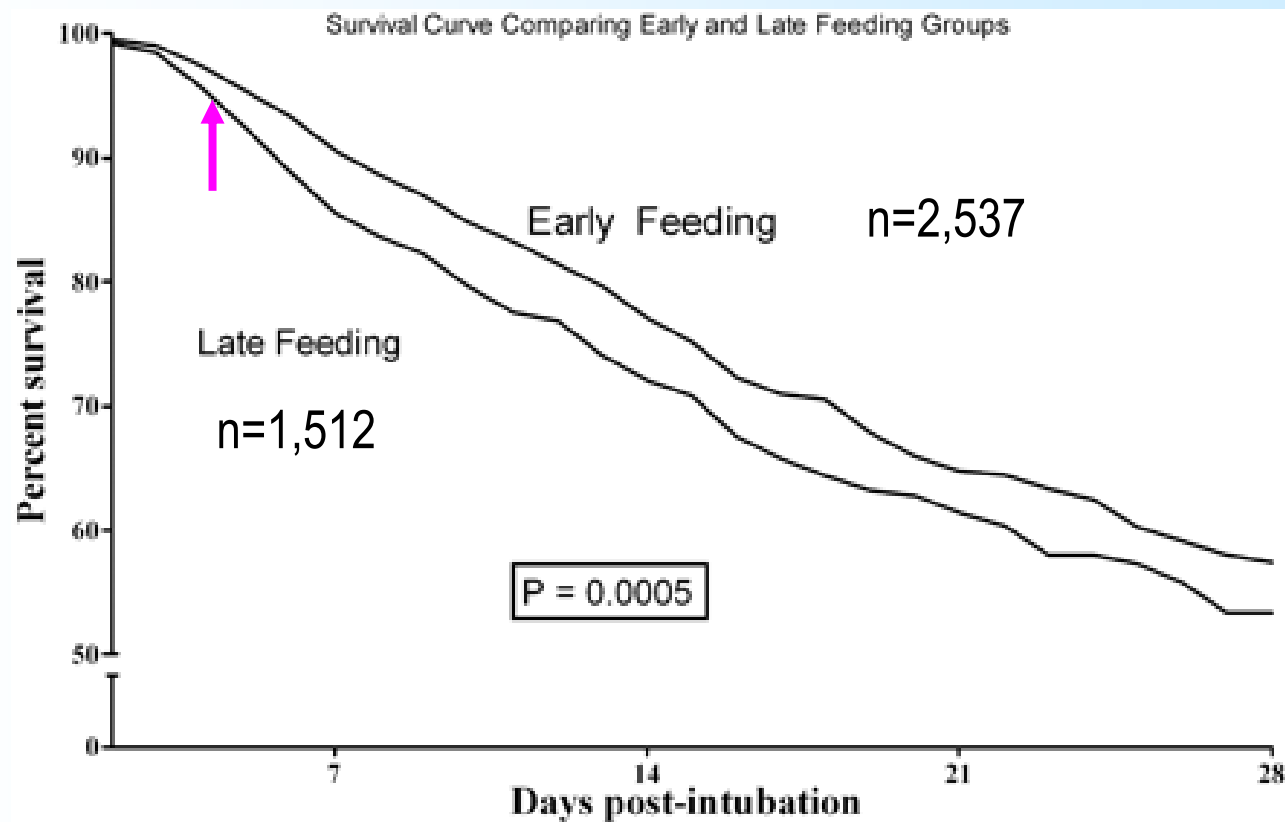
Villet et al, Clinical Nutrition (2005) 24, 502



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

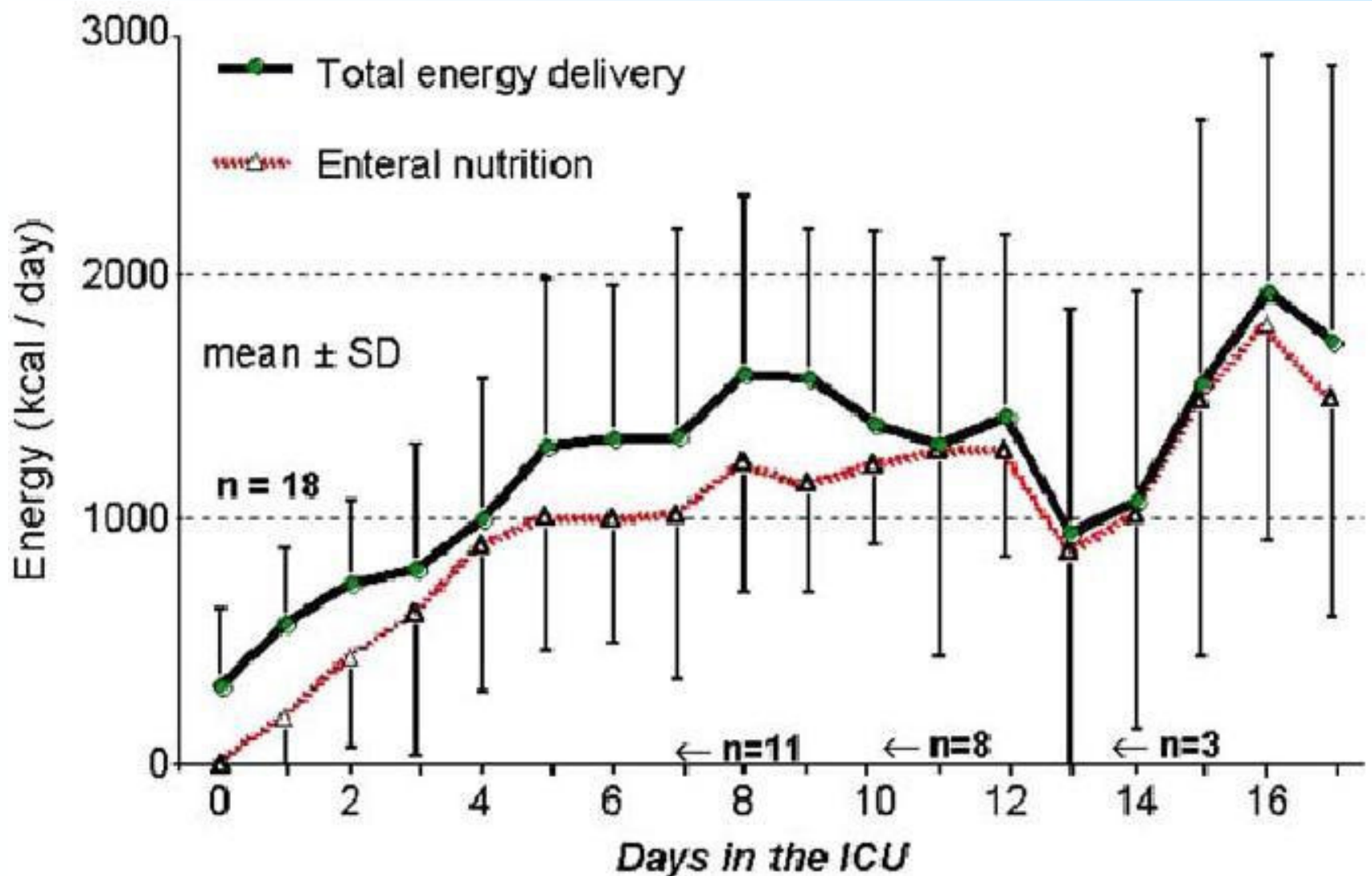
Artinian et al, Chest 2006; 129:960



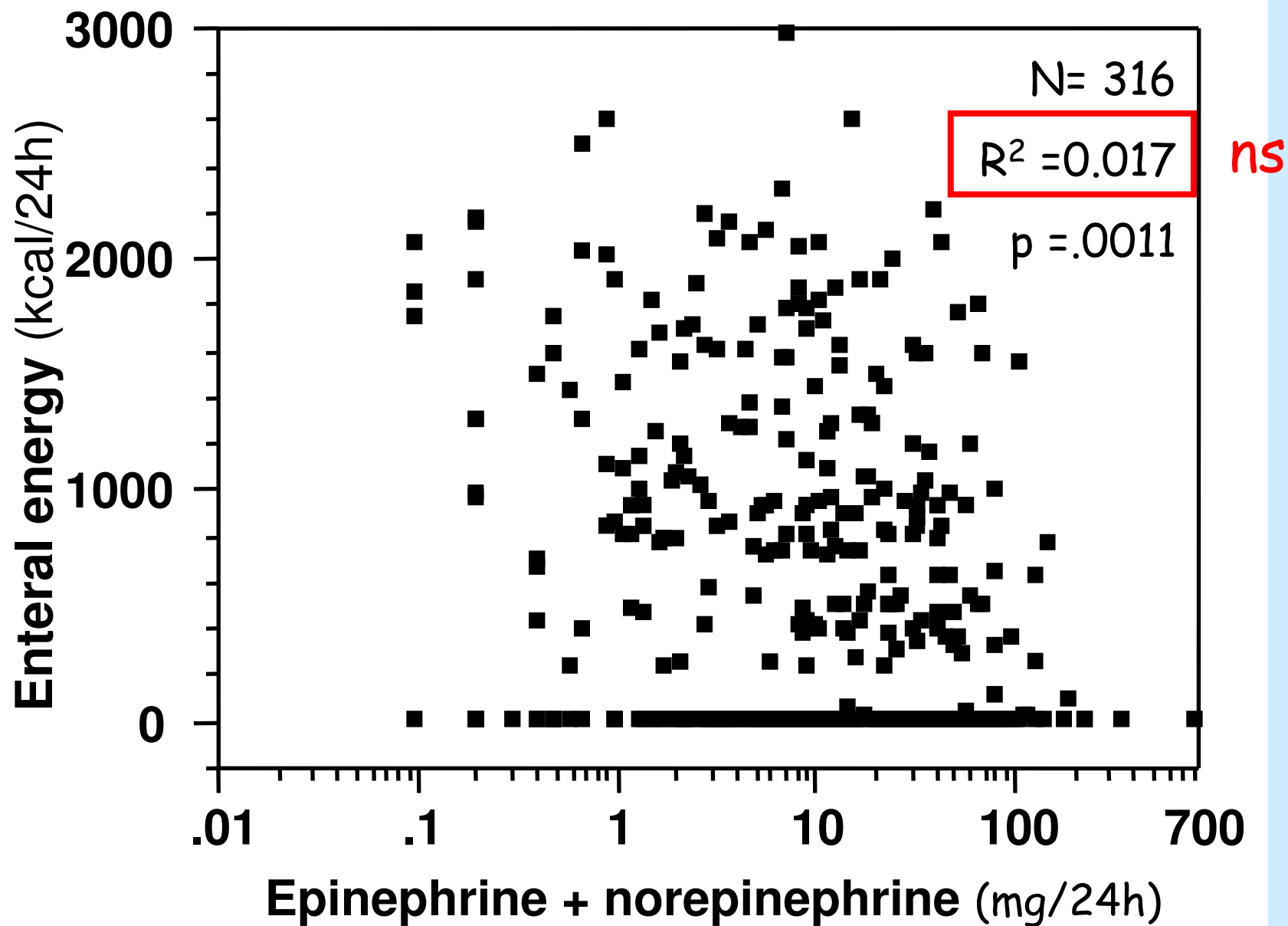
Kaplan-Meier estimates of survival among critically ill medical patients in early feeding group and in the late feeding group. Early feeding was associated with a significantly higher rate of survival ($p = 0.0005$ by log-rank test)

Enteral nutrition in hemodynamic failure

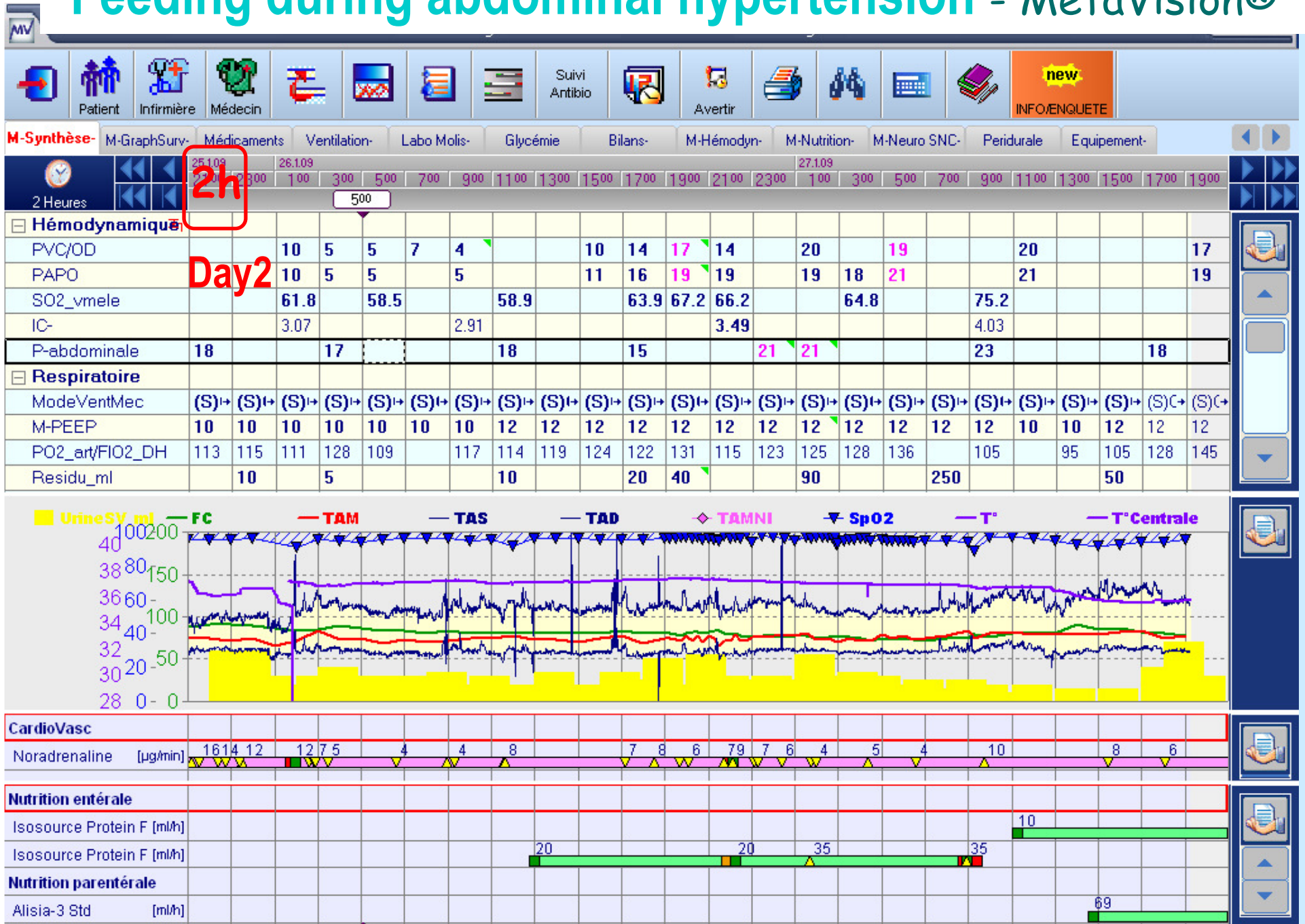
Berger et al, Clinical Nutrition (2005) 24, 124



EN by vasopressor dose

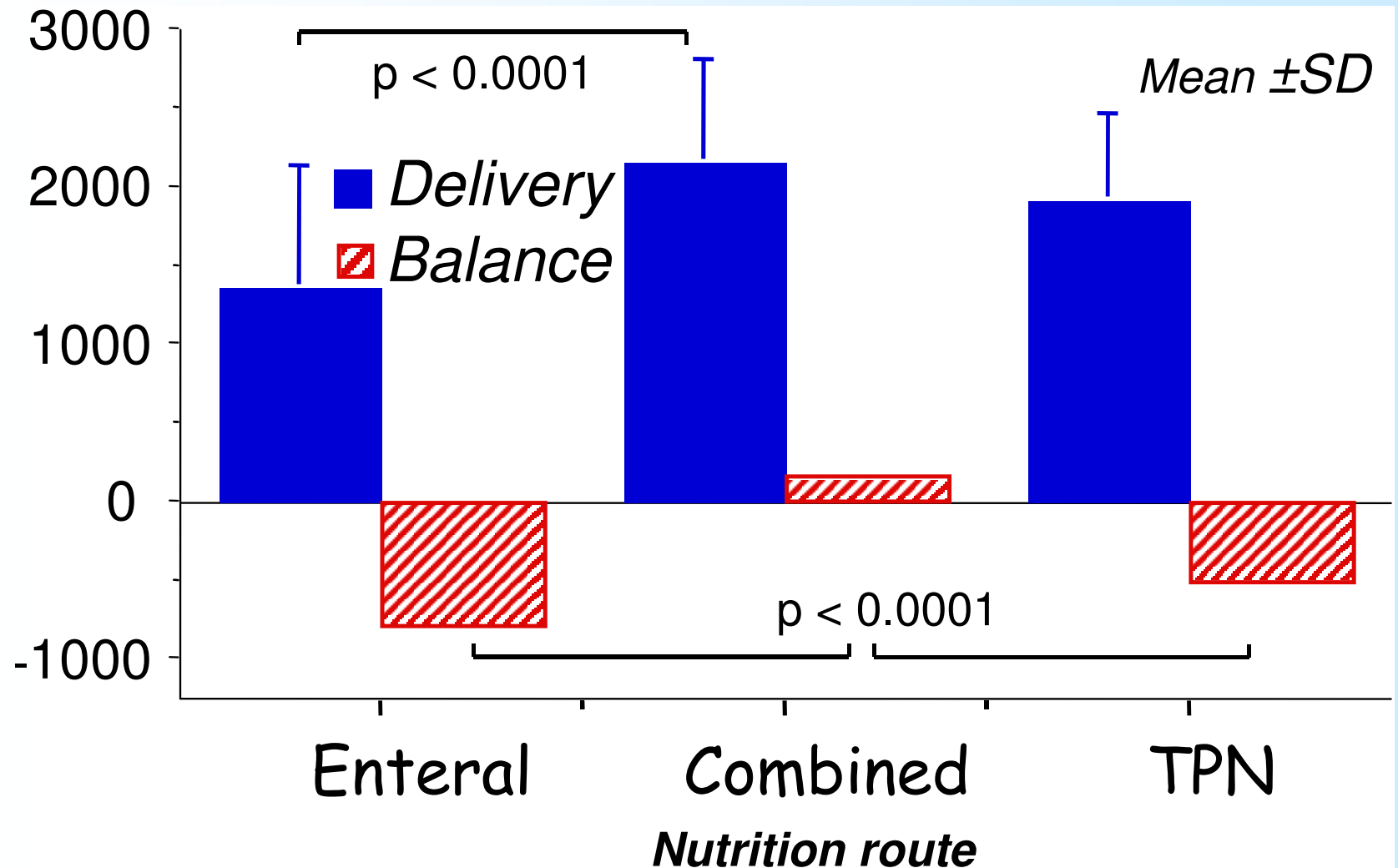


Feeding during abdominal hypertension - MetaVision®

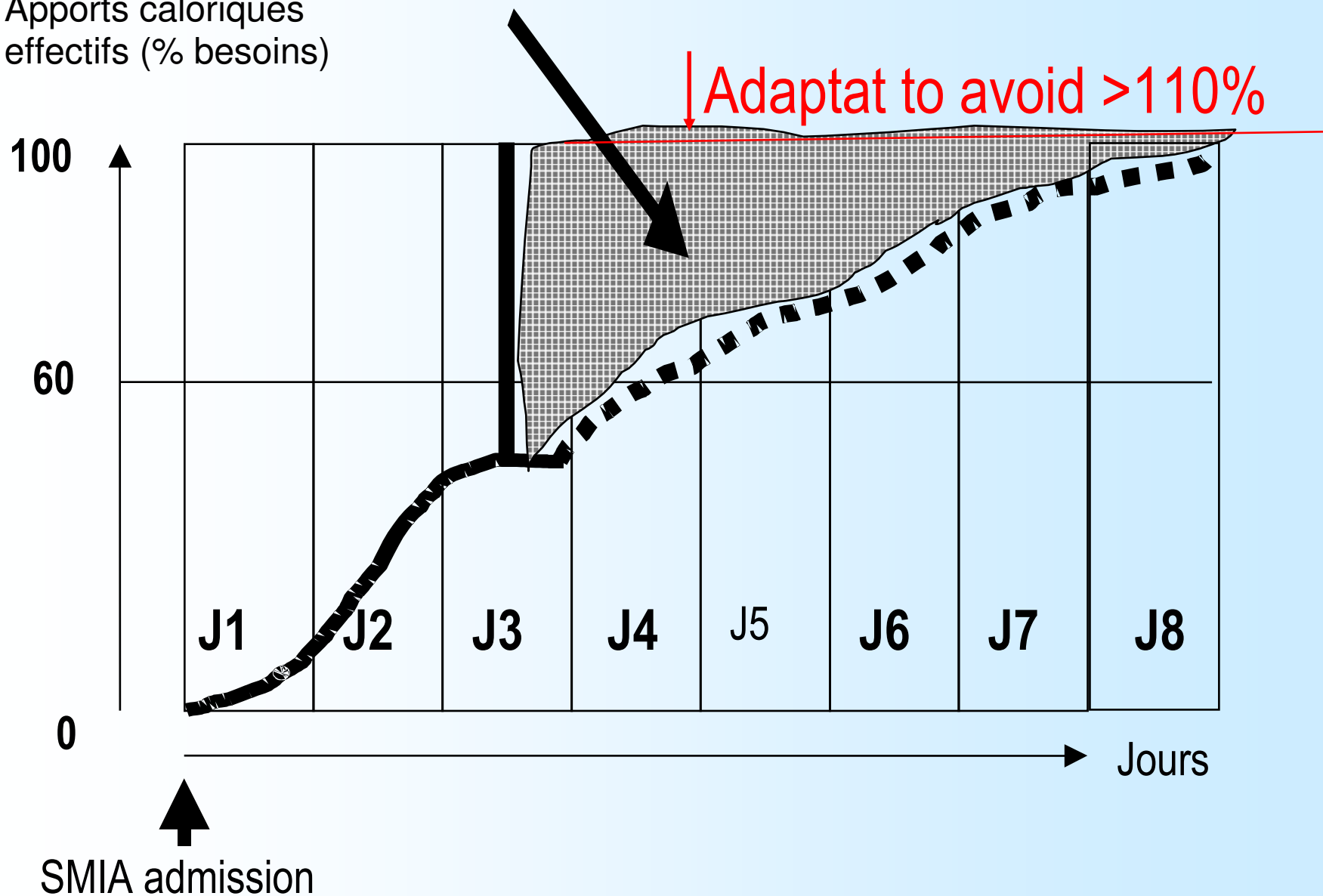


Mean daily energy delivery in patients with enteral or combined nutritional support

Villet et al, Clin Nutr 2005



Apports caloriques effectifs (% besoins)



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