

Parenteral nutrition given in the perioperative period in abdominal surgery : compliance with guidelines



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Background

A significant proportion of patients are receiving parenteral nutrition (PN) for elective surgery in our abdominal surgery unit. The purpose of this study was to assess accordance of prescription with international guidelines.

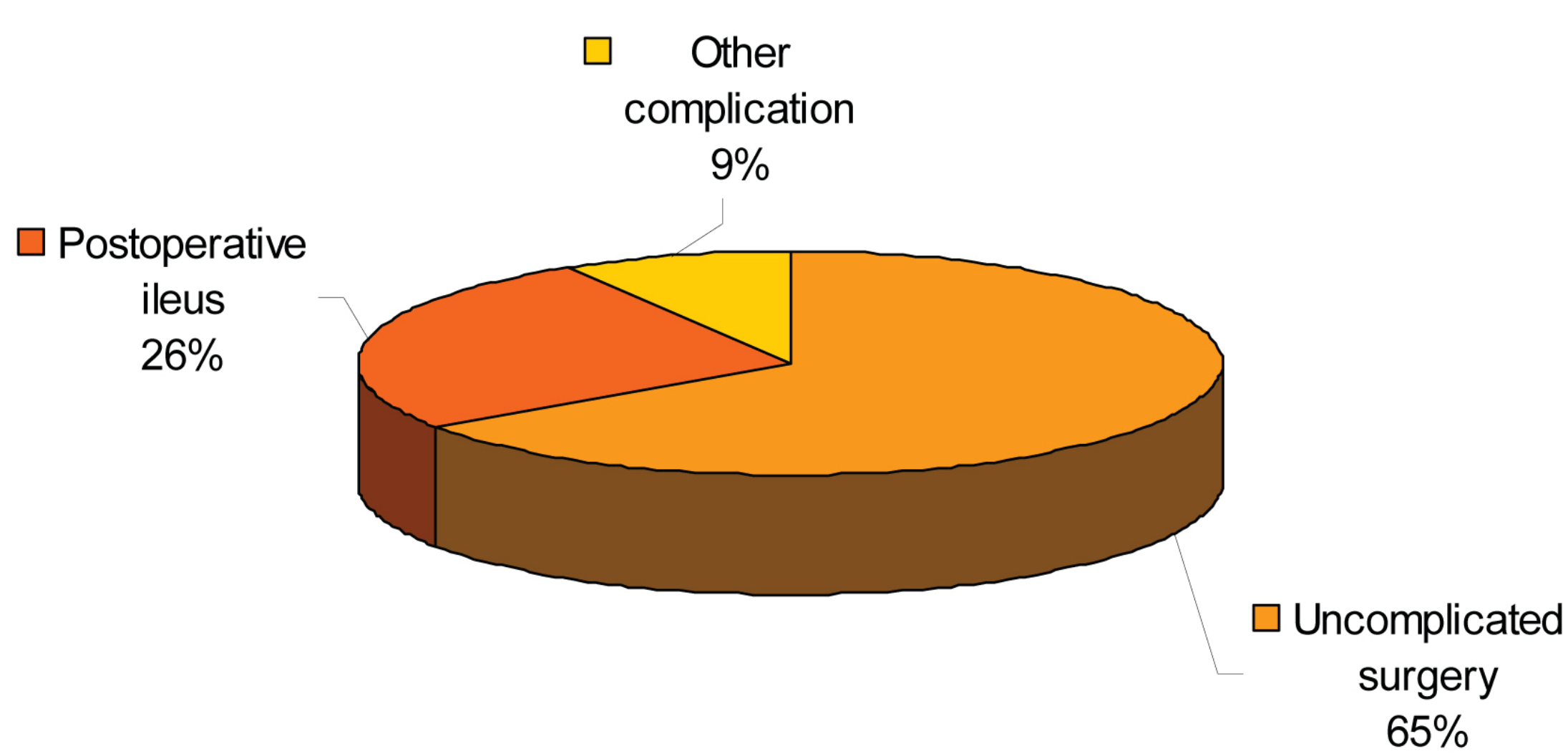
Method

Patients who underwent elective surgery and that received PN were selected during a 6-month period (January 2013 – June 2013). ESPEN guideline (Braga et al., 2009) was considered as guideline of reference. The clinical pharmacist assessed conformity to guidelines with information from prescriptions and medical files.

Results

23 patients were selected: 15 patients had uncomplicated surgery (US) and 6 had postoperative ileus (PI) and 2 another complication (OC) (fig 1).

Fig 1 : Elective surgery : subcategories



ESPEN guidelines recommend preoperative PN in severely undernourished patients who cannot be adequately orally or enterally fed. Postoperative PN is recommended to undernourished patients in whom enteral nutrition is not feasible or tolerated, or when patients with postoperative complications impairing gastrointestinal functions are unable to meet energy requirements for at least 7 days. Only 6 treatments (26%) complied with guidelines: As none of the patients were qualified as undernourished and all patients had gastrointestinal impairment due to surgery, only patients with PN at least 7 days after surgery complied with guidelines (fig 2 and 3 : blue : complies, green : does not comply).

Fig 2 : Elapsed time before starting parenteral infusions (Kaplan-Meyer)

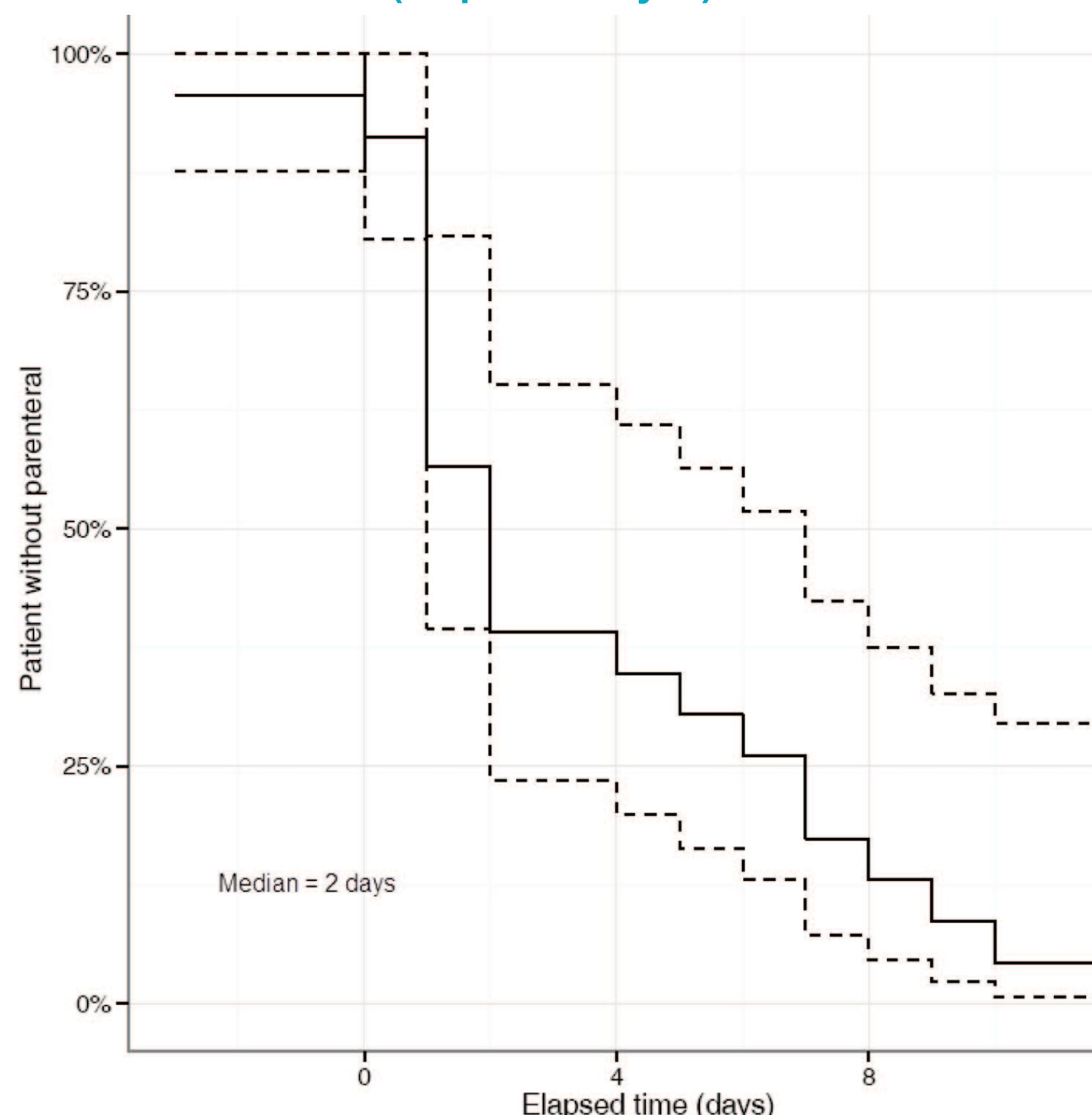
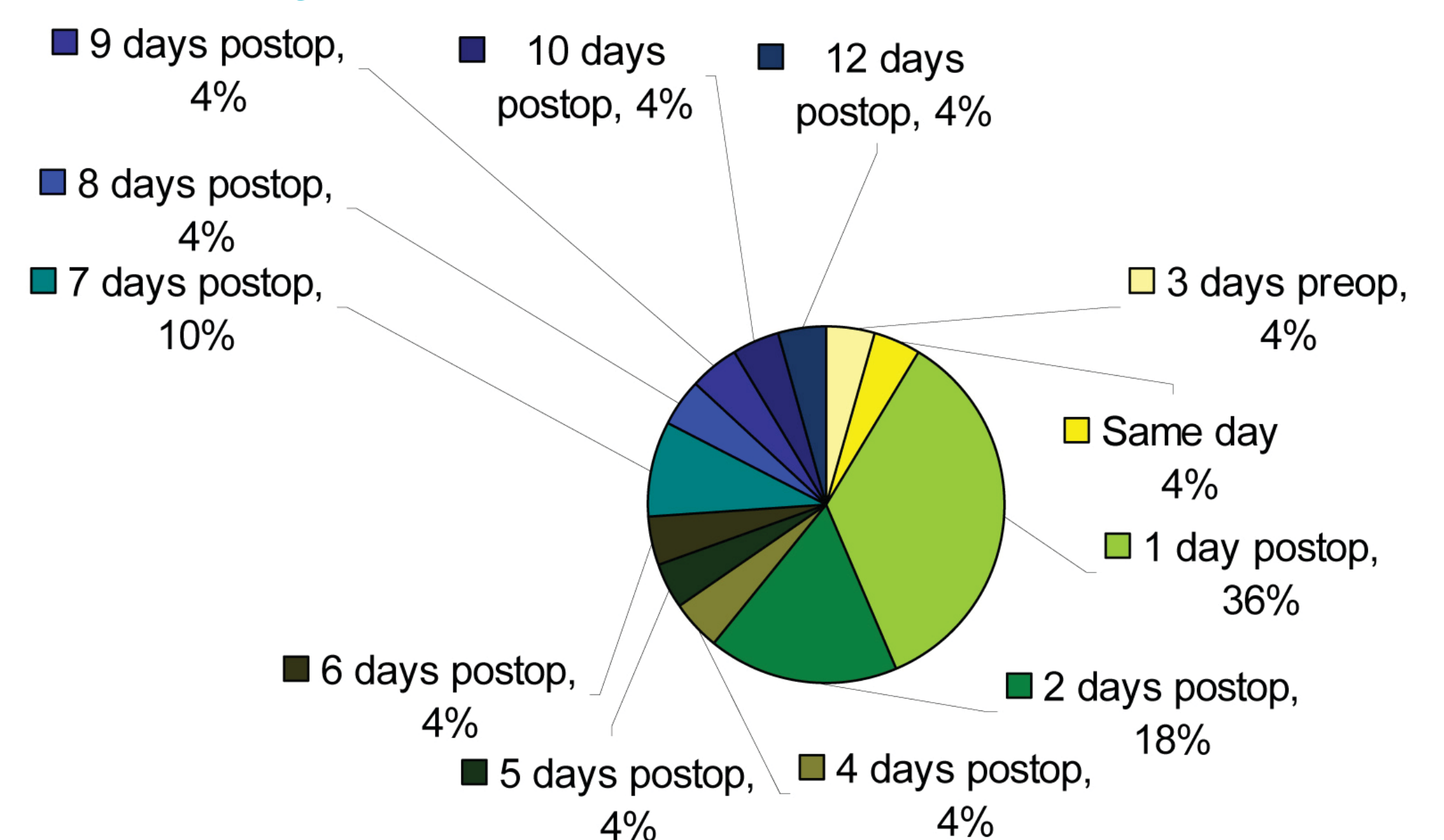


Fig 3 : Time of parenteral nutrition initiation



Link between subcategory of elective surgery and initiation of PN is made in table 1.

Table 1 : Compliance of PN therapy with guidelines

Subcategory	Time of PN initiation	Conclusion
US 1	Same day as surgery	Does not comply
US 2	1 day postoperative	Does not comply
US 3	1 day postoperative	Does not comply
US 4	1 day postoperative	Does not comply
US 5	1 day postoperative	Does not comply
US 6	1 day postoperative	Does not comply
US 7	1 day postoperative	Does not comply
US 8	2 days postoperative	Does not comply
US 9	2 days postoperative	Does not comply
US 10	2 days postoperative	Does not comply
US 11	2 days postoperative	Does not comply
US 12	7 days postoperative	Complies
US 13	9 days postoperative	Complies
US 14	10 days postoperative	Complies
US 15	3 days preoperative	Does not comply
PI 1	1 day postoperative	Does not comply
PI 2	4 days postoperative	Does not comply
PI 3	5 days postoperative	Does not comply
PI 4	6 days postoperative	Does not comply
PI 5	7 days postoperative	Complies
PI 6	8 days postoperative	Complies
OC 1	1 day postoperative	Does not comply
OC 2	12 days postoperative	Complies

US = uncomplicated surgery PI = postoperative ileus OC = other complication

Conclusion

This study demonstrates most PN treatments in elective abdominal surgery are not in agreement with guidelines. A multidisciplinary group (nutritionist, dietician, surgeon and pharmacist) was created to implement specific protocols. Measures of improvement will be taken and measured in 2014.