

# Letters and comments

## The role of carbohydrate drinks in preoperative nutrition

### Comment 1

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doi 10.1308/003588413X13511609956453

#### CORRESPONDENCE TO

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#### COMMENT ON

Jones C, Badger SA, Hannon R. The role of carbohydrate drinks in preoperative nutrition for elective colorectal surgery. *Ann R Coll Surg Engl* 2011; **93**: 504–507

doi 10.1308/147870811X13137608455136

I enjoyed reading and entirely agree with the findings of the review by Jones *et al* on the role of carbohydrate (CHO) drinks in preoperative nutrition for elective colorectal surgery but I offer a word of caution. No mention was made of the possible increased risk of surgical site infection (SSI) that may be caused by this action, even in non-diabetic patients. Tight control of perioperative blood sugar in patients who have diabetes is one of the high impact interventions advocated by the Department of Health to reduce the risk of SSI.<sup>1</sup> In addition, there is compelling evidence that poorly controlled, perioperative blood sugar, even in non-diabetic patients, may significantly increase deep sternal wound SSI rates in patients having cardiac surgery.<sup>2</sup>

In these days of enhanced recovery after surgery (ERAS), the increasing use of a laparoscopic approach (particularly for elective colorectal surgery) and optimal use of anaesthesia<sup>3</sup> (both of which minimise the metabolic response to trauma) may make this caution unnecessary with regard to SSI. However, I should be interested to know if Jones *et al* found any increased incidence of SSI in their meta-analysis when preoperative CHO drinks had been used prior to open elective colorectal surgery. If this were found to be the case, closer control of blood sugar ought to be considered in the perioperative period.

#### References

1. Department of Health. *High Impact Intervention: Care Bundle to Prevent Surgical Site Infection*. London: DH; 2011.
2. Lazar HL, McDonnell M, Chipkin SR *et al*. The Society of Thoracic Surgeons practice guideline series: blood glucose management during adult cardiac surgery. *Ann Thorac Surg* 2009; **87**: 663–669.
3. Adamina M, Kehlet H, Tomlinson GA *et al*. Enhanced recovery pathways optimize health outcomes and resource utilization: a meta-analysis of randomized controlled trials in colorectal surgery. *Surgery* 2011; **149**: 830–840.

### Comment 2

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doi 10.1308/003588413X13511609956499

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We read with interest the review of Jones *et al* looking at the role of CHO drinks in perioperative nutrition for elective colorectal surgery. However, we have some concerns regarding the rigour of assessment of elements of the evidence base and the authors' accuracy in presentation of this evidence. The largest randomised controlled trial referenced (and one of only two that looked at clinical outcomes in patients undergoing colorectal surgery in the review) is that of Mathur *et al*.<sup>1</sup> The review by Jones *et al* states that Mathur *et al* showed CHO supplements reduced length of hospital stay. This is at odds with Mathur's own conclusion: 'Preoperative CHO treatment did not improve postoperative fatigue or length of hospital stay after major abdominal surgery.'<sup>1</sup>

Furthermore, the work of Svanfeldt *et al*<sup>2</sup> is misquoted in this review, suggesting it showed that: 'whole-body protein did not change in the high CHO group whereas it was more negative in the low CHO group after surgery...' Svanfeldt *et al* investigated whole-body protein kinetics via a stable isotope labelled amino acid technique and not whole-body protein. This protein kinetic study looked at changes in protein balance before and after colorectal surgery. Whole-body protein balance was shown to be negative at a set point in time during the preoperative fast and again at a set point during the early postoperative period. The rate of loss of protein mass at this instant was faster in the group receiving low dose preoperative CHO than in the high dose group. To interpret this as meaning whole-body protein did not change in the perioperative period in the group receiving high dose CHO is erroneous.

While Yuill *et al* have shown a reduced loss of muscle mass postoperatively in patients receiving CHO,<sup>3</sup> this has been in upper gastrointestinal (GI) surgery and not colorectal surgery. Other studies such as that by Mathur *et al*<sup>1</sup> do measure total body protein in lower GI surgery but have not as yet demonstrated that CHO can significantly attenuate the perioperative loss of total body protein.

We agree that measures to minimise the stress response to surgery will benefit our patients. Evidence exists that supports the implementation of ERAS programmes,<sup>4</sup> most of which include preoperative CHO supplementation. However, it is important for us to present in context an accurate evidence base supporting each component of ERAS to max-