

n-3 fatty acid-enriched parenteral nutrition regimens in elective surgical and ICU patients: a meta-analysis

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CORRECTION

Correction: n-3 fatty acid-enriched parenteral nutrition regimens in elective surgical and ICU patients: a meta-analysis

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Correction

Following publication of their article [1], the authors noticed that Table 2 should list medium chain triglycerides (MCT) instead of olive oil emulsion (OO) in the column 'Standard lipid emulsion' as follows;

- For the study Barbosa 2010 [7], this column should read SO/MCT
- For the study Berger 2008 [8], this column should read SO/MCT
- For the study Friesecke 2008 [9], this column should read SO/MCT
- For the study Wachtler 1997 [15], this column should read SO/MCT
- For the study Klek 2005 [22], this column should read SO/MCT
- For the study Senkal 2007 [28], this column should read SO/MCT

The correct version of the table appears overleaf.

Competing interests

The authors have no competing interests.

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Table 2. Studies evaluating n-3 PUFA-enriched lipid emulsions for parenteral nutrition and reported outcomes/measured parameters

Study	Setting (n)	n-3 PUFA-enriched lipid emulsion	Standard lipid emulsion	Clinical outcomes	Laboratory outcomes
ICU patients^a (n = 762)					
Antebi 2004 [6]	Major surgery (20)	SO/MCT/OO/FO ^b	SO		AST ^c , ALT ^c , CRP, alpha-T, TG ^c
Barbosa 2010 [7]	Sepsis (23)	SO/MCT/n-3 TGs ^d	SO/MCT	H LOS, ICU LOS, Mortality	CRP, EPA, DHA, AA, LTB4, AST, ALT, Bilirubin, OI, IL-6, PTT, Lac
Berger 2008 [8]	Abdominal aortic aneurysm (24)	SO/MCT/n-3 TGs ^d	SO/MCT	Mortality, H LOS, ICU LOS	EPA, DHA, AA, alpha-T, CRP, TG
Friesecke 2008 [9]	Critical medical (165)	SO + FO ^e	SO/MCT	Mortality, Infection rate, ICU LOS, Bleeding events	IL-6 ^f TBU
Heller 2004 [10]	Elective colorectal (44)	SO + FO ^e	SO	ICU LOS	AST, ALT, CRP, Bilirubin, PT (Quick), PTT, TBU
Morlion 1996 [11]	Gastric carcinoma (20)	SO + FO ^e	SO		AA, EPA, DHA, LTB5, LTB4
Piper 2009 [12]	Major abdominal or craniomaxillofacial surgery (44)	SO/MCT/OO/FO ^b	SO/OO		AST, ALT, TG
Roulet 1997 [13]	Elective oesophagectomy (19)	SO + FO ^e	SO		EPA, DHA, AA, BT
Sabater 2011 [14]	Acute respiratory distress syndrome (44)	SO/MCT/n-3 TGs ^d	SO	Mortality	LTB4
Wachtler 1997 [15]	Elective abdominal surgery (40)	SO/MCT/n-3 TGs ^d	SO/MCT	Infection rate, H LOS, ICU LOS	LTB4, LTB5, LTB ratio, IL-6 ^f
Wang 2008 [16]	Severe acute pancreatitis (40)	SO + FO ^e	SO	Mortality, Infection rate, H LOS, ICU LOS	EPA, CRP, OI
Weiss 2002 [17]	Gastrointestinal surgery (23)	SO + FO ^e	SO	Mortality, Infection rate, H LOS, ICU LOS	IL-6 ^g
Wichmann 2007 [18]	Major intestinal surgery (256)	SO/MCT/n-3 TGs ^d	SO	Mortality, Infection rate, H LOS, ICU LOS	AST, Bilirubin, TG, CRP, LTB5, LTB ratio, alpha-T, EPA, PT (Quick), Cr
Elective surgery, non-ICU patients (n = 740)					
Badia-Tahull 2010 [19]	Major gastrointestinal surgery (27)	SO + FO ^e	SO/OO	Mortality, H LOS, Infection rate	ALT, CRP, TBU, Cr, PIU
Grimm 2006 [20]	Radical colorectal cancer resection (33)	SO/MCT/OO/FO ^b	SO	H LOS ^c	alpha-T, AA, EPA, DHA, LTB4, LTB5, LTB ratio
Jiang 2010 [21]	Gastrointestinal malignancy (203)	SO + FO ^e	SO	H LOS, Infection rate, Bleeding events	IL-6, CrCl
Klek 2005 [22]	Major abdominal surgery (58)	SO + FO ^e	SO/MCT	H LOS, Infection rate	ALT, AST, Cr, PIU
Koeller 2003 [23]	Major abdominal surgery (30)	SO/MCT/n-3 TGs ^d	SO		LTB4, LTB5, LTB ratio
Liang 2008 [24]	Colorectal cancer (41)	SO + FO ^e	SO	Mortality, Infection rate, H LOS	IL-6
Linseisen 2000 [25]	Major abdominal surgery (33)	SO/MCT/n-3 TGs ^d	SO		alpha-T, AA, EPA, DHA
Makay 2011 [26]	Major gastric surgery (26)	SO + FO ^e	SO	Mortality, Infection rate, H LOS	AST, ALT, Cr, PIU; Lac
Mertes 2006 [27]	Abdominal surgery (249)	SO/MCT/OO/FO ^b	SO	Mortality, H LOS	AST, ALT, TG, Bilirubin
Senkal 2007 [28]	Major abdominal cancer (40)	SO/MCT/n-3 TGs ^d	SO/MCT	Infection rate	AA, EPA, DHA

^aAllocation to the ICU subgroup was driven by explicit mention in the published paper of an ICU stay, in the Methods or Results sections of the original article.

^bSMOFlipid 20% (Fresenius Kabi): 1000 ml of emulsion contains: soya-bean oil, refined 60.0 g, triglycerides, medium-chain, 60.0 g, olive oil, refined 50.0 g, FO, rich in n-3-acids 30.0 g. ^cNot used for meta-analysis as data are from a subgroup of Mertes *et al.* [27]. ^dLipoplus 20% (B.Braun): 1000 ml of emulsion contains: medium-chain triglycerides: 100.0 g, soybean oil, refined: 80.0 g, N-3-acid triglycerides: 20.0 g. ^eOmegaven 10% fish oil emulsion (Fresenius Kabi): 100 ml emulsion contains highly refined fish oil 10.0 g containing eicosapentaenoic acid (EPA) 1.25 to 2.82 g, docosahexaenoic acid (DHA) 1.44 to 3.09 g, dl-α-tocopherol (as antioxidant) 0.015 to 0.0296 g. ^fData reported by graph only or qualitatively. ^gNo SD reported. AA, (%) content of arachidonic acid in serum/cellular membranes; alpha-T, alpha-tocopherol; ALT, alanine aminotransferase; AST, aspartate aminotransferase; BT, bleeding time; Cr, serum creatinine; CrCl, creatinine clearance; CRP, C-reactive protein; DHA, (%) docosahexaenoic acid content in serum/cellular membranes; EPA, (%) eicosapentaenoic acid content in serum/cellular membranes; FO, fish oil emulsion; Lac, lactate; (H) LOS, (Hospital) length of stay; ICU, intensive care unit; LTB, leukotriene B; LTB ratio, LTB5: LTB4; (n-3) TGs, (n-3) triglycerides; MCT, medium chain triglycerides; OI, oxygenation index; OO, olive oil emulsion; PIU, serum urea; PT, prothrombin time; PTT, partial thromboplastin time; SO, soybean oil emulsion; TBU, transfused blood units.