

• FAILURE TO OBSERVE THESE GUIDELINES (SEE OVERLEAF) WILL RESULT IN DISQUALIFICATION

PHYTOSTEROL CONCENTRATIONS IN PARENTERAL LIPID EMULSIONS.

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Plant sterols, phytosterols, are present in intravenous lipid emulsions. They have been associated with thrombocytopenia and cholestatic hepatic disorders. Lipid emulsions of various companies, all 20%, showed variable concentrations of phytosterols ranging from 367 $\mu\text{mol}/100\text{ g}$ of lipids for Intralipid to 196 $\mu\text{mol}/100\text{ g}$ of lipids for Lipoven [1]. In the present study the most important sterols, cholesterol, β -sitosterol, stigmasterol and campoststerol, were determined by gas-liquid chromatography, in Intralipid 10%, 20%, 30%; Lipovenös 10% and 20%; Lipofundin MCT/LCT 10% and 20% and Lipofundin S 10% and 20%. The sterol concentrations were expressed as μmol sterols per 100 g of lipids to corrected for the concentrations of the lipid emulsions. The concentration range of the sterols were for cholesterol 19-669 $\mu\text{mol}/100\text{ g}$ lipids, for sitosterol 108-419 $\mu\text{mol}/100\text{ g}$ lipids, for stigmasterol 15-137 $\mu\text{mol}/100\text{ g}$ lipids and for campoststerol 18-149 $\mu\text{mol}/100\text{ g}$ lipids. The concentrations of the total phytosterol concentrations in lipid emulsions ($\mu\text{mol}/100\text{ g}$ lipids):

Intralipid 10%	408;	Lipovenös 10%	141	Lipofundin MCT/LCT 10%	313
Intralipid 20%	399;	Lipovenös 20%	301	Lipofundin MCT/LCT 20%	332
Intralipid 30%	432;			Lipofundin S 10%	699
				Lipofundin S 20%	654

In conclusion, the concentrations of phytosterols showed considerable differences between the various lipid emulsions. The phytosterol concentrations were not linearly correlated with the concentrations of the lipid emulsions for Lipovenös.

Reference

[1] Saubion JL et al. Clin Nutr 1996; 15: P99.