

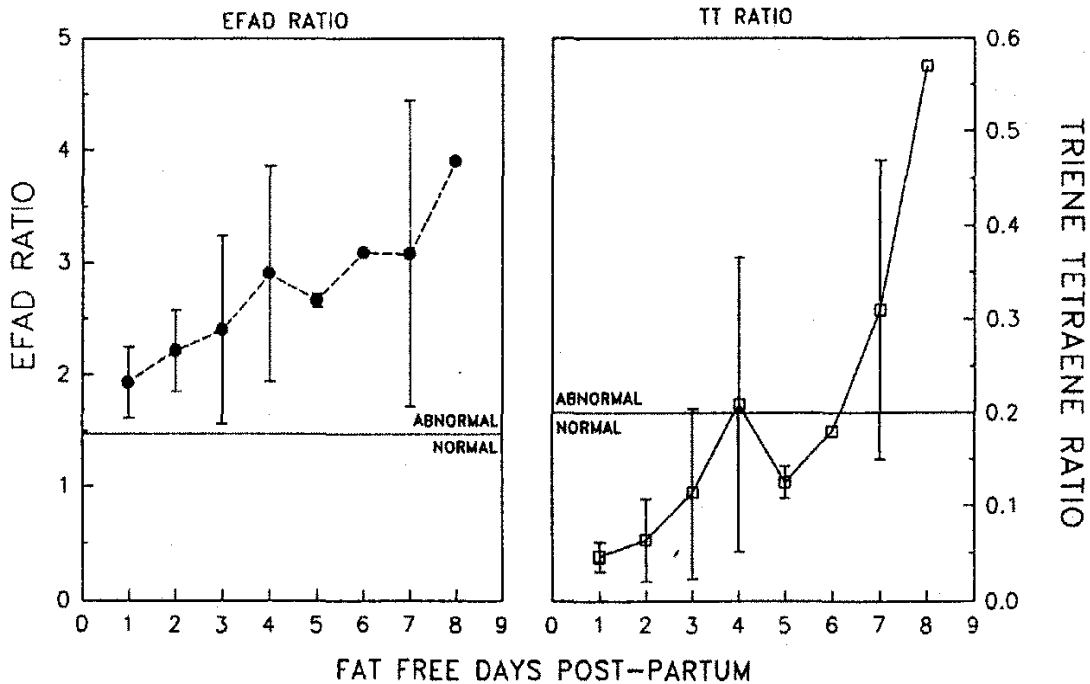
COMPARISON OF TWO INDICATORS OF ESSENTIAL FATTY ACID DEFICIENCY IN NEONATES ON FAT FREE PARENTERAL NUTRITION.

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Neonates in the intensive care unit of Flinders Medical Centre are frequently given fat free parenteral nutrition due to several complications surrounding intravenous fat administration to the premature neonate. As this period of time can be as long as ten days we wanted to investigate the most efficient method of monitoring the Essential Fatty Acid (EFA) status of premature neonates on fat free parenteral nutrition. We compared the efficacy of two indicators of Essential Fatty Acid Deficiency (EFAD) in detecting the early onset of biochemical EFAD in the neonate. The two indicators used were the Triene Tetraene Ratio (TTR) (Holman et al. 1964) and the EFAD ratio, a ratio developed in our laboratory.

Plasma fatty acid analysis was performed on eight neonates who were on fat free parenteral nutrition from three to eight days. The subsequent Gas Liquid Chromatographic analysis gave rise to the two ratios which were plotted against days of fat free parenteral nutrition (see graph).

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The EFAD ratio gave an earlier indication of impending EFAD (day 1 being abnormal) as compared to the TTR which had a delay time of some four days before it indicated the presence of biochemical EFAD.

This may indicate that some form of fat / lipid supplement is required to prevent the onset of biochemical EFAD and that this new ratio gives a more efficient indication of the EFA status in the premature neonate.

HOLMAN,R.T., CASTER,W.O.,and WEISE,H.F. (1964). *Am. J. Clin. Nutr.* 14:70.