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**The effect of short-term altered macronutrient status on *acne vulgaris* and biochemical markers of insulin sensitivity**

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**Background** – It has been suggested that a low-glycemic index diet may alleviate acne and this hypothesis is currently being investigated in a long-term dietary intervention study. A short-term, live-in study was designed to further investigate this link and to provide information on the short-term effects of altered macronutrient levels.

**Objective** – To determine the short-term effects of a low-glycemic load diet on markers of insulin sensitivity and how this relates to the clinical progression of *acne vulgaris*.

**Design** – Eleven male acne sufferers, aged 15-20, were allocated to either a high protein (HP, n=6, 40-45% energy from carbohydrate, 25% energy from protein) or high carbohydrate group (HC, n=5, 55-60% energy from carbohydrate, 10% energy from protein). Fat intake was maintained at 30-35% energy for each group. All meals were provided on an *ad libitum* basis for 7 days. Food consumed was measured at baseline and during the live-in study for an overall assessment of an individual's glycemic load. At baseline and day 7, the subject's acne was assessed by a dermatologist and blood was sampled for hormonal markers of acne and HOMA-IR.

**Outcomes**

Group	Glycemic load/day		Acne inflammatory count		HOMA-IR	
	HP (n=6)	HC (n=5)	HP	HC	HP	HC
Baseline <sup>a</sup>	202.5 ± 11.8	191.2 ± 11.4	34.7 ± 5.8	6.2 ± 2.9	1.73 ± 0.45	1.82 ± 0.39
Day 7 <sup>a</sup>	89.4 ± 9.5	239.8 ± 7.9	33.6 ± 3.8	10.4 ± 6.0	1.12 ± 0.26	1.90 ± 0.22
P value <sup>b</sup>	0.001	0.006	0.90	0.32	0.09	0.85

<sup>a</sup> Values expressed as mean ± SEM. <sup>b</sup> Statistical evaluation within groups was obtained using paired t-test

**Conclusion** – The sample size and/or study length was insufficient to observe any significant changes in inflammatory counts or HOMA-IR in either the HP or HC groups. Although some results appear promising, further research is needed to confirm the diet-acne connection.