

INDIVIDUALS WITH COW'S MILK ALLERGY ARE AT RISK FOR NOT REACHING THEIR GROWTH POTENTIAL

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Introduction

A positive association has been reported between milk consumption and growth parameters.

The majority of studies examining this association have been performed in children during their growth phase.

In this study, we investigated the impact of a dairy-free diet on the final stature of IgE-mediated Cow Milk Allergy (IgE-CMA) young adults. These patients, by definition, are unable to consume even minor amounts of dairy foods, from infancy.

Methods

Anthropometric data was measured in 60 IgE-CMA patients [20.4±3.4 years old, 26 males (43%)] and 36 volunteers without IgE-CMA [control group, 22.5±4.2 years old, 15 males (42%)]. Age- and gender-specific SD-scores (SDSs) and percentiles were determined according to CDC growth charts.

Nutrient intake assessment was based on 24 hour dietary recall and presented as percent of Dietary Reference Intakes (DRI's) for age and gender. Individuals with conditions or treatments affecting bone metabolism or growth, were excluded.

Results

Height parameters were significantly reduced in CMA subjects, and many did not reach their mid-parental target height. In addition, a high percentage did not consume DRI recommendations for several essential nutrients.

Conclusion

Individuals with CMA are at risk for not reaching their growth potential. Growth monitoring and appropriate dietary intervention may avoid nutritional deficiencies and growth retardation in these patients.

Growth parameters in CMA subjects and controls, Mean±SD

Parameter	CMA	Control
Height (cm)	164.8±8.4 *	168.5±7.8
Height (SDS)	-0.56±0.9 *	-0.04±0.7
BMI (kg/m ²)	22.0±4.1	22.4±2.5
BMI (SDS)	-0.20±1.1	-0.03±0.9

Significant difference between groups: *p<0.05, *p<0.01

Nutrient intake in CMA subjects and controls, Mean±SD

Nutrient	CMA	Control
Calcium (mg)	324±143 *	797±336
Phosphorus (mg)	989±509 *	1314±526
Vitamin A (mcg)	302±286 *	527±463
Riboflavin (mg)	1.3±0.7 *	1.9±0.8

Significant difference between groups: *p<0.05, *p<0.01

Height-for-age percentiles in CMA subjects and controls

	≤ 25th percentile	≤ 10th percentile	≤ 5th percentile
CMA	48.3%	20%	10%
Control	16.7%	2.8%	0%
Expected	≤ 25%	≤ 10%	≤ 5%

Incidence of subject consuming less than two-thirds (67%) of the DRI's

Nutrients	CMA (%)	Control (%)
Energy	51.5 *	32.0
Protein	9.1 *	0
Calcium	97.0 *	40.0
Phosphorus	18.2 *	8.0
Potassium	89.7	88.9
Zinc	33.3 *	24.0
Iron	31.0	26.3
Magnesium	37.9	36.8
Vitamin A	81.1 *	68.0
Thiamin (B1)	30.3	24.0
Riboflavin (B2)	27.1 *	4.0
Vitamin B6	12.1 *	8.0
Vitamin B12	21.1 *	4.0
Vitamin C	37.9	36.8

Significant difference between groups:

* p<0.05, * p<0.01

Actual Height (AH) and Target Height (TH)

