Growth Failure: A Complication of Dietary Treatment of Hypercholesterolemia

A group of 40 children were advised to pursue a low-cholesterol and low-fat diet because of relative or unequivocal hypercholesterolemia. Few studies evaluating the benefits and risks of dietary recommendations to children with hypercholesterolemia have been reported. Thirty-two of the patients were considered to have normal growth, although some were seen relatively shortly after the diagnosis was made and treatment was initiated. The remaining 8 were considered to have growth failure associated with the dietary treatment. Three had growth inhibition primarily of height and 5 primarily of weight. The 8 patients were ingesting approximately 65% of the calories necessary for energy expenditure and approximately 40% of the dietary requirement for zinc. The 3 patients with growth inhibition of stature were obtaining only 20% of their energy expenditure through fat ingestion and consumed even less calories than the other 5 (<60% of the established energy requirement for their ideal weight, sex, and age).

The authors comment that these data demonstrate that the diagnosis and unsupervised dietary treatment of hypercholesterolemia in children may have adverse consequences. In this study a high proportion of patients who were advised to eat a low-fat, low-cholesterol diet because of hypercholesterolemia consumed diets inappropriate to sustain normal growth and weight gain and to initiate pubertal development. The diets consumed by those with growth failure were mainly inadequate in energy and zinc. The authors conclude that a reduction in fat intake to less than 30% of total energy may not be routinely warranted in children with hypercholesterolemia and that such restrictions should be reserved for those who fail to reduce their serum cholesterol levels when following a prudent diet. Sufficient dairy products, red meat, and eggs to meet nutritional standards should be included in the diet, and this can be done without increasing the fat and cholesterol intake beyond the aforementioned guidelines. These recommendations are in accord with those of the Committee on Nutrition of the American Academy of Pediatrics, who concluded in their report that any restrictions on dietary patterns during the first 20 years of life should be viewed with caution. The authors strongly recommend assistance from a dietitian or nutritionist when planning diets for children with hypercholesterolemia.

Lifshitz F, Moses N. *Am J Dis Child* 1989;143:537-542.

Editor's comment—*I can only reemphasize the comments made by Dr. Laurence Finberg, in an editorial entitled "Dietary Advice: Responsibility for Monitoring" that appeared in the* American Journal of Diseases of Children. *Dr. Finberg noted that the dietary requirements of children differ from those of adults in many respects, eg, children need more calories for energy and a variety of nutrients at higher levels to promote optimal growth. Finberg agreed that a prudent diet in the presence of hypercholesterolemia was indicated for the patients reported here. In the 20% of patients (8/40) with growth retardation, the failure lay in the monitoring of growth and in the provision of advice concerning the intake of all necessary nutrients.*

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