

Bone Metabolism Defects Common in Untreated Children With Celiac Disease News Author: Megan Rauscher

September 5, 2008 — The calcium metabolism defects that are prevalent in children with untreated celiac disease resolve after a gluten-free diet has begun, the results of a new study indicate.

"A detailed, time-consuming, and expensive study of bone metabolism is not necessary in children with CD" who are exposed to gluten for a short period, but then switch to a gluten-free diet, concludes the Italian study team in the August issue of the *Journal of Pediatrics*.

Dr. Chiara Zanchi and colleagues from the University of Trieste and Institute of Child Health IRCCS Burlo Garofolo, Trieste, determined the prevalence of calcium metabolism alterations and bone defects in 54 children (mean age, 7 years) with untreated celiac disease.

They compared serum levels of calcium, magnesium, 25(OH) vitamin D3, alkaline phosphatase and parathyroid hormone of CD patients with those of 60 healthy control children.

Compared with the controls, children with celiac disease had significantly lower concentrations of calcium and 25(OH) vitamin D3 and significantly higher concentrations of parathyroid hormone ($p < 0.001$). Twenty-nine children (53.7%) with celiac disease had hyperparathyroidism.

Of the 20 children with celiac disease who tested positive for two alterations on laboratory measurement and underwent dual energy X-ray absorptiometry (DEXA), 10 were osteopenic (z-score between -1 and -2.5).

"In line with other studies involving children diagnosed with celiac disease before 9 years of age," the authors note, all the laboratory findings returned to normal after 6 months of a gluten-free diet, with improvement in bone mineral density and resolution of osteopenia.

These observations, they say, confirm that in this population at least, "bone metabolism abnormalities are part of the gluten-dependent clinical picture of celiac disease."

"In our opinion," Dr. Zanchi and colleagues write, "it is possible to simplify case management of celiac disease, at least in patients diagnosed before adolescence, and defer evaluation to bone metabolism and bone density in favor of motivating compliance to a strict gluten-free diet. This would save a great deal of time and money."

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