

## Osteoarticular Manifestations and Abnormalities of Bone Metabolism in Celiac Disease

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**Abstract :** Introduction: Celiac disease (CD) is a chronic autoimmune inflammatory enteropathy caused by gluten. The clinical presentation is very variable. Malabsorption in the MC is responsible for an alteration of the bone metabolism. Our purpose is to study the osteoarticular manifestations related to this condition. Material and methods: It is a retrospective study of 41 cases of CD diagnosed on clinical, immunological, endoscopic and histological arguments, in the Internal Medicine and Gastroenterology Department of Farhat Hached Hospital between September 2005 and January 2016. Results: Osteoarticular manifestations were found in 9 patients (22%) among 41 patients presenting CD. These were 7 women and 2 men with an average age of 35.7 years (25 to 67 years). These manifestations were revelatory of CD in 3 cases. Abdominal pain and diarrhea were present in 6 cases. Inflammatory polyarthralgia of wrists and knees has been reported in 7 patients. Mechanical mono arthralgia was noted in 2 patients. Biological tests revealed microcytic anemia by iron deficiency in 7 cases, hypocalcemia in 5 cases, Hypophosphatemia in 3 cases and elevated alkaline phosphatases in 3 cases. Upper gastrointestinal endoscopy with duodenal biopsy found villous atrophy in all cases. In immunology, Anti-transglutaminase antibodies were positive in all patients, Anti-endomysium in 7 cases. Measurement of bone mineral density (BMD) by biphotonic X-ray absorptiometer with evaluation of the T-score and the Z-score was performed in Twenty patients (48.8%). It was normal in 7 cases (33%) and showed osteopenia in 5 patients (25%) and osteoporosis in 2 patients (10%). All patients were treated with a Gluten-free diet associated with vitamin D and calcium substitution in 5 cases. The evolution was favorable in all cases with reduction of bone pain and normalization of the phosphocalcic balance. Conclusion: The bone impact of CD is frequent but often asymptomatic. Patients with CD should be evaluated by the measurement of bone mineral density and monitored for calcium and vitamin D deficiencies.

**Keywords :** bone mineral density, celiac disease, osteoarticular manifestations, vitamin D and calcium

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