A Woman with Progressive Thinning of the Skull

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A 71-year-old woman with atrial fibrillation was undergoing warfarin therapy. She had been aware of a painless scalp deformity in the bilateral parietal region for one year. Computed tomography revealed near-symmetric thinning of the bilateral parietal bones (Pictures 1, 2). A diagnosis of multiple myeloma was eliminated based on the protein electrophoresis results. Serum calcium, phosphorus and intact parathyroid hormone concentrations were within normal limits. Bone mineral density (g/cm²) levels were slightly low compared to the normal range (femoral 0.796; spine 0.641;...
whole body; 0.75) measured by dual energy X-ray absorptiometry. Bone scintigraphy with Technetium-99m hydroxymethylene diphosphonate did not show any abnormalities.

Bone-specific alkaline phosphatase levels were within the normal range, whereas the urinary levels of both deoxypyridinoline (11.7 nmol/mmol creatinine) and type 1 collagen cross-linked N-telopeptides (159.8 nmol BCE/mmol creatinine) were markedly elevated. These results suggested that high rates of bone resorption were present in this patient, and thus we started alendronate treatment. Some previous reports showed that parietal thinning is a slowly progressive disease of persons middle-aged or older. However, the precise mechanism is still unknown (1-3). Abnormal bone remodeling might play an important role in the disease progression.

References