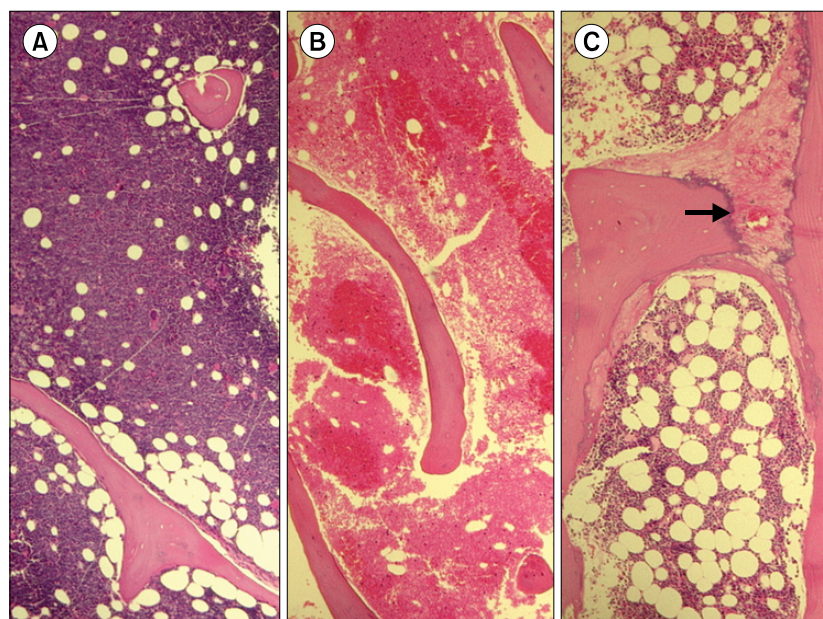


Bone regeneration post-bone marrow necrosis mimicking hyperparathyroid bone disease

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A 47-year-old woman visited our hospital complaining of recently developed back pain. Complete blood cell counts were: hemoglobin, 12 g/dL; WBC, $30.0 \times 10^9/L$; platelets, $19.0 \times 10^9/L$; and blasts, approximately 60% of total nucleated cells. Her bone marrow (A) (H&E, $\times 400$) was packed with blasts, which were positive for CD34, CD19, CD20, CD10, and TdT. The diagnosis of precursor B cell lymphoblastic leukemia was made and the patient subsequently underwent induction chemotherapy. At 3 weeks after induction chemotherapy, the bone marrow was replaced by eosinophilic granular ghosts of many dead cells, and some hemorrhagic foci were noted (B). This indicated that extensive marrow necrosis had occurred probably due to vascular insufficiency during the post-chemotherapeutic period. After 5 months of continuous chemotherapy, the follow-up bone marrow biopsy revealed robust bone remodeling as well as hematopoietic regeneration (C). Of note, there was extensive fibrous scarring around the pinkish osteoid seam (arrow), suggesting metaplastic bone regeneration during bone repair. These findings may mimic hyperparathyroid bone diseases showing paratrabeular fibrosis. Careful attention to the contour and history of bone necrosis is helpful in interpreting a post-necrotic healing structure in an area of previous bone marrow necrosis.