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**Unsuspected Lymphoma Diagnosed Using Biopsy During Kyphoplasty**

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**Introduction:** Kyphoplasty is now a widely performed procedure to treat vertebral compression fractures (VCF). In selecting appropriate patients for kyphoplasty, it is important to distinguish the pain caused by VCFs from other numerous causes of back pain. The differential diagnosis must consider not only osteoporosis, but also various causes of osteomalacia, endocrinopathy, and malignancy. It has recently been demonstrated that a biopsy taken during kyphoplasty confers no increased morbidity, and that even in the setting of normal laboratory values can identify patients with multiple myeloma. The purpose of this study was to determine the frequency of underlying metabolic malignant diagnoses in a consecutive series of kyphoplasties performed for compression fractures.

**Methods:** A prospective histological evaluation of biopsies from presumed osteoporotic VCF was performed to determine latent hematopoietic dyscrasia. Over a 4 year period, we performed vertebral body biopsies of 569 vertebral levels in 276 patients, as well as an iliac crest bone marrow aspiration. The incidence of malignant pathology was determined.

**Results:** All specimens showed signs of bone remodeling and/or fracture healing; woven bone and cartilaginous tissue were often found representing callus formation. In three patients (1.1%), both the bone biopsy and the bone marrow showed evidence of B-cell lymphoma.

**Conclusions:** Bone biopsy before kyphoplasty is advocated as a screening test for occult malignancy. Three patients in this series were diagnosed with unsuspected malignancy and were referred to an oncologist for further evaluation and treatment. Lymphoma has been an uncommon cause of VCFs, but based on our experience in this series, we recommend that biopsies be taken and followed-up in all kyphoplasty patients to rule out unsuspected malignancies.