51st ANNUAL DIAGNOSTIC SLIDE SESSION 2010.

CASE 2010-1

Submitted by: Sarah E. Martin and Eyas M. Hattab
Indiana University School of Medicine
Department of Pathology and Laboratory Medicine
350 W. 11th St., Rm. 4010
Indianapolis, IN 46202

Clinical History:
55-year-old female presented with bilateral hip and rib pain. A chest radiograph at that time revealed multiple, bilateral rib fractures with callus formation. Insufficiency fractures of the right superior and inferior pubic rami and ischium and possibly of the sacrum were noted on hip and pelvic radiographs, and a subsequent MRI showed avascular necrosis of the left femoral head. Laboratory studies at that time demonstrated hypophosphatemia. A parathyroid scan, an octreotide body scan, and a whole body sestamibi scan all revealed normal results with no evidence of neoplasm. The patient's diagnosis of avascular necrosis in combination with pain refractory to non-operative measures resulted in a left total hip arthroplasty.

The patient was lost to follow up until six years later when, at the age of 61, she presented with bilateral weakness and shooting pains in her legs after a recent fall. She denied back pain and bowel or bladder dysfunction. The work-up included a full body positron emission tomography/computed tomography (PET/CT), which revealed a 4.3 × 1.7 cm fluoro-deoxyglucose (FDG^{18})-avid expansile lytic lesion involving the left posterior T12 neural arch. At that time, serum fibroblast growth factor-23 (FGF-23) level was found to be elevated. Subsequently, an MRI of the spine was performed, which revealed a multi-lobulated, vividly enhancing, heterogeneous mass centered in the left pedicle and laminae of T12, with extension into the epidural space and posterior paraspinal musculature. The patient underwent T11 to L1 laminectomies and tumor resection.

Material Submitted:
H&E section of the mass lesion

Points for Discussion:
1. Diagnosis, including characteristic features and differential diagnoses
2. Pathogenesis
3. Common clinical presentation and treatment