“Super Bone Scan” in a Case of Diffuse Bone Marrow Metastasis of Gastric Adenocarcinoma

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A 51-year-old man presented with backache of 10 months and gait disturbance. Serum alkaline phosphatase was elevated to 2,166 IU/L. Abdominal radiography showed diffuse sclerosis of the vertebral bodies (Picture 1A). $^{99}$mTc HMDP bone scintigraphy revealed diffusely increased bone uptake without renal excretion (“super bone scan”) (Picture 1B).

(A) Abdominal radiography. (B) $^{99}$mTc HMDP bone scintigraphy. (C) Computed tomography. (D) Lumbar magnetic resonance T1-weighted image. (E) T2-weighted image. (F) Radiography 3 months previously.

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Computed tomography showed osteosclerosis of the vertebral bodies, ribs and pelvic bones (Picture 1C). Sagittal magnetic resonance T1-weighted (Picture 1D) and T2-weighted (Picture 1E) lumbar spine images showed diffuse low signals throughout all the vertebral bodies and posterior elements without cortical bone disruption. The patient was subsequently diagnosed as gastric carcinoma (Borrmann type 4, poorly differentiated adenocarcinoma). Radiography 3 months previously retrospectively showed sclerosis of the L2 vertebral body (Picture 1F).

Super bone scans are commonly observed in diffuse bone marrow metastasis from prostatic or breast cancer (1-5). Cases associated with poorly differentiated gastric adenocarcinoma have also been reported (6-8).

References