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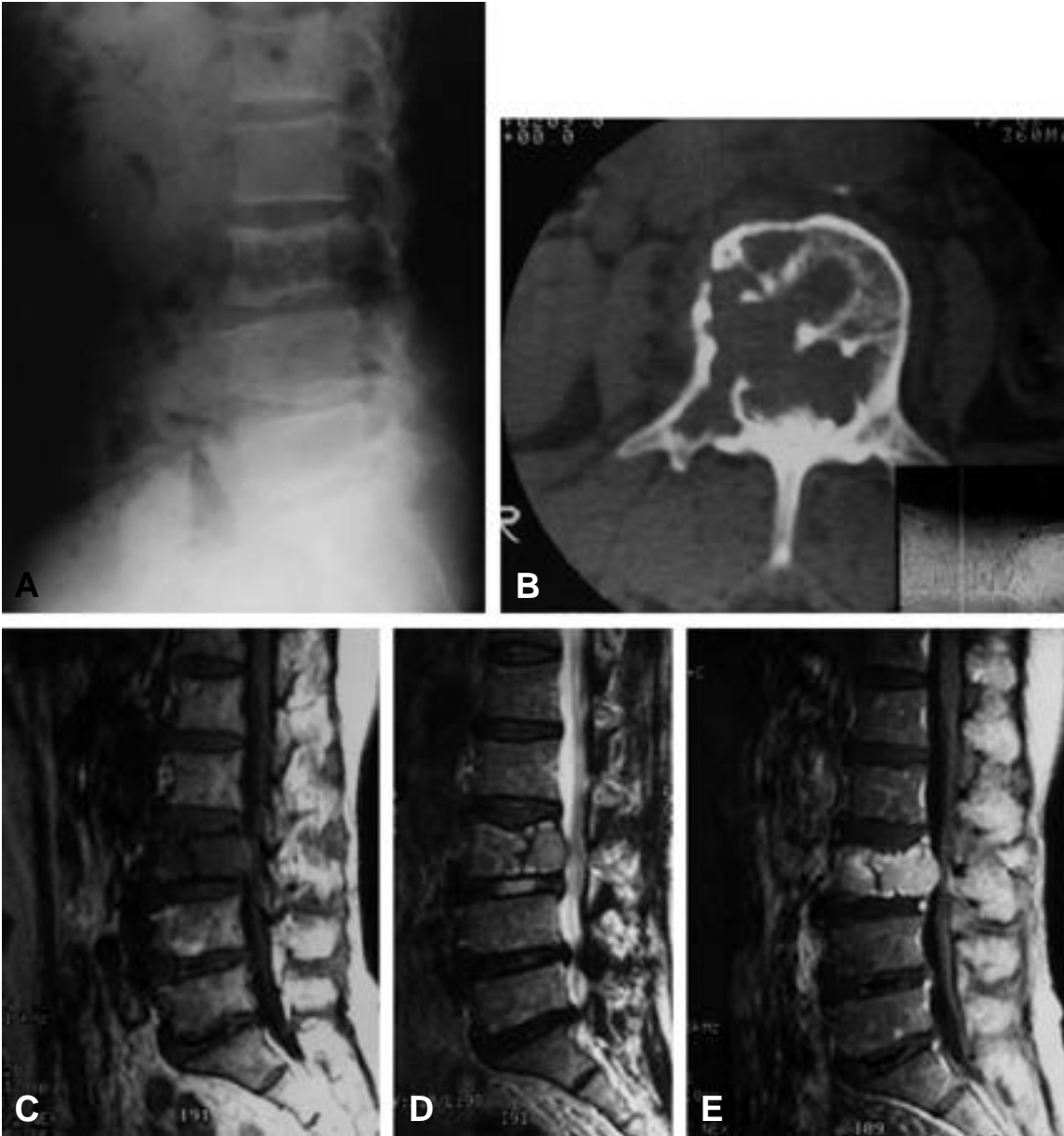
Tel : 02) 3497-3514, Fax : 02) 3462-5472, E-mail : yooncs58@yumc.yonsei.ac.kr

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**Table 1.** Summary of clinical and radiological findings in 5 cases of solitary plasmacytoma of the bone

Case	Case 1	Case 2	Case 3	Case 4	Case 5
Sex/Age	M/38	M/32	M/49	M/43	M/56
Symptom	Pain Post. thigh paresthesia	Pain Both L/E weakness	Pain Swelling	Pain	Headache
Location	Sacrum	T5	Femur	Tibia	Frontal bone
Size(cm)	7 × 4	4 × 2	More than 10	5 × 4	4 × 3
<b>Plain radiograph</b>					
Bone destruction	Yes	Yes	Yes	Yes	Yes
Sclerotic rim	No	No	Yes	No	No
Calcification	No	No	Yes	No	No
Cortical breakdown	Yes	No	Equivocal	Yes	Unknown
Periosteal reaction	No	No	No	No	Unknown
Soft tissue extension	Unknown	Unknown	Yes	Yes	Unknown
<b>CT scan</b>					
Contour	Multilobular	Multilobular			Lobular
Density	Solid soft-tissue	Solid soft-tissue			High
Calcification	No	No but septated			No
Homogeneity	Homogeneous	Homogeneous			Homogeneous
Trabeculated		Trabeculated			
Peripheral sclerosis	No	No			No
Contrast enhancement	Only precontrast CT	Only precontrast CT	No examination	No examination	Diffuse strong
Cortical breakdown	Yes				Yes
Extrasosseous extension	Yes				Yes
<b>MRI</b>					
T1-weighted image(SI*)	High to muscle(m.)	High to m.	Iso to low to m.	Slightly high to m.	High to m.
T2-weighted image(SI)	Slightly high to m.	Slightly high to m.	High to m.	Slightly high to m.	Slightly high to m.
Homogeneity	Homogeneous	Homogeneous	Heterogeneous	Homogeneous	Homogeneous
Internal characteristic	No	Trabeculated	Multi-necrotic	Trabeculated	No
Extrasosseous extension	Yes	Yes	Yes, extensive	Yes	Yes
Gd-enhancement	Diffuse strong	Diffuse strong	Heterogeneous	Diffuse strong	Diffuse strong

\* SI: signal intensity(comparing to the signal intensity of muscle)



**Fig. 1.** A 32-years-old man with solitary plasmacytoma of 3<sup>rd</sup> lumbar vertebral body.

- A.** Plain radiograph of lumbar spine shows osteolytic bone destruction with compression deformity of 3<sup>rd</sup> lumbar vertebral body.
- B.** Precontrast CT shows lobulated bone destruction with soft-tissue density. The extensions of the lesion to surrounding soft-tissue and spinal canal are also noted. Multiple trabeculated bone densities within the lesion are seen suggesting residual normal bones.
- C-E.** Sagittal MRI of 3<sup>rd</sup> lumbar spine shows slightly increased signal intensity on T1-weighted image (C) and intermediate(not high) signal intensity on T2-weighted image (D) with compression deformity and protrusion into spinal canal. Linear signal void appearances of 3<sup>rd</sup> lumbar vertebra are represented trabeculated normal residual bones. Enhanced T1-weighted image (E) shows diffuse enhancement of the lesion.

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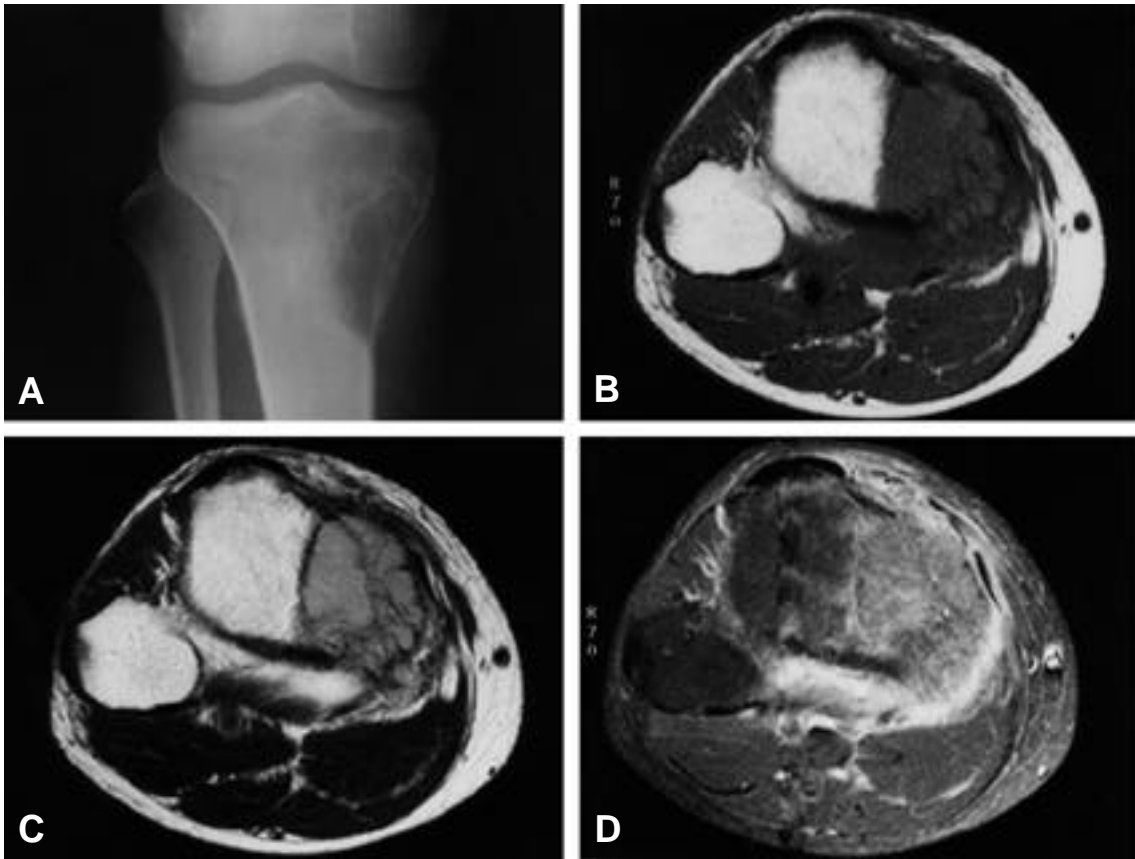
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32 56 43.6 .

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(Fig. 1-A, 2-A) 1  
(osteosclerotic lesion)  
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Table 1

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**Fig. 2.** A 42-years-old male with solitary plasmacytoma of left proximal tibia  
**A.** Plain radiograph shows geographic pattern of osteolytic bone destruction without sclerotic rim in the metaepiphysis of left proximal tibia. Soft-tissue swelling is also noted at medial aspect of left proximal tibia.  
**B-D.** Axial MRI shows destructive bony lesion with slightly increased signal intensity on T1-weighted image (B) and intermediate signal intensity on T2-weighted image (C). Trabeculated appearances within the lesion are noted with low signal intensities, which are more prominent on T2-weighted image. Soft-tissue extension of the lesion is also noted. Enhanced T1-weighted image (D) shows diffuse enhancement.

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(Fig. 1-C, D, 2-B, C)

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(trabeculation) (soap-bubbly) . Dimopoulos 7)

Bataille Sany<sup>2)</sup> 1981

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T1- T2

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**Abstract**

**Solitary Plasmacytoma of the Bone: Radiologic Findings**

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**Purpose** : We examined the patients to evaluate the radiologic findings of solitary plasmacytoma of the bone.

**Materials and Methods** : We retrospectively reviewed radiologic findings of 9 cases with solitary plasmacytoma of the bone (SPB) for recent 5 years, but 2 cases were not included this study due to an abnormal finding of bone marrow and another 2 cases were not included due to an abnormal manifestations of computed tomography (n=1) and MRI (n=1).

**Results** : Among 5 cases, 4 cases had an osteolytic bone destruction and 1 case had an osteosclerotic bone destruction on the plain radiograph. Computed tomography and MRI showed more informations about trabeculated bone destruction and the soft-tissue extension of the lesion comparing to plain radiographs. The MRI finding of SPB in 4 cases showed a relatively high signal intensity on T1-weighted image and intermediate signal intensity on T2-weighted image, on which the signal intensity of the lesion is slightly higher than that of the muscle. One case had an extensive soft-tissue involvement and multiple necrosis, which presented iso to low signal intensity on T1-weighted image and high heterogeneous signal intensity on T2-weighted image. The Gadolinium-enhanced T1-weighted images of 5 cases showed diffusely strong enhancement of the lesion except on the necrosis areas.

**Conclusion** : Computed tomography and MRI may present some characteristics of SPB and demonstrate another foci of plasma cell infiltrates, so these can be helpful for the diagnosis and treatment of SPB.

**Key Words** : Plasmacytoma, Roentgenogram, Computed tomography, MRI

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