

## 골 신티그래피와 SPECT상 양측성 광자결손으로 나타난 Biparietal Thinning

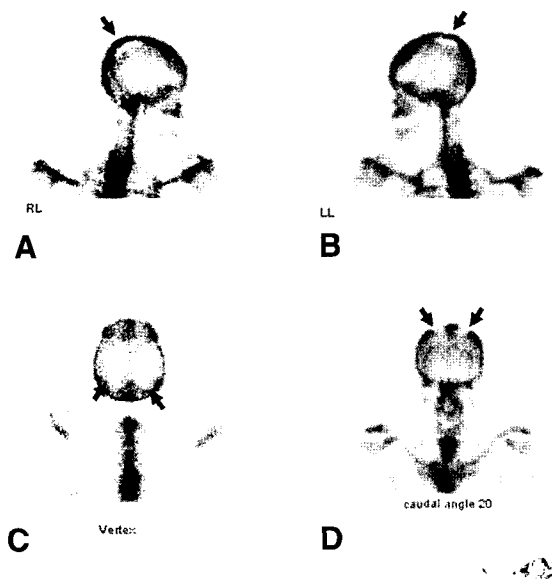
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### Biparietal Thinning Showing Typical Bilateral Photon Defects on Bone Scintigraphy and SPECT

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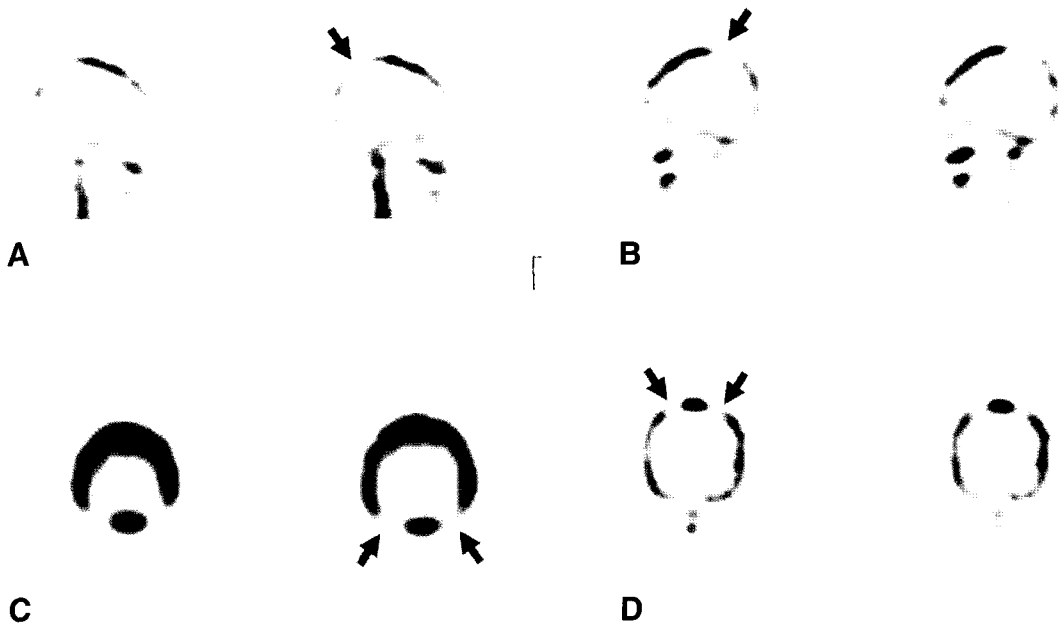
A 68-year-old man with small cell carcinoma of the lung and adenocarcinoma of the prostate underwent Tc-99m MDP bone scintigraphy for the evaluation of skeletal metastases. Bilateral symmetrical photon defects in both parietal bones of the skull were observed. The radiographs of the skull demonstrates biparietal thinning in the same area of the abnormality identified on bone scintigraphy. Although these findings in cancer patients can be mistaken for skeletal metastases, the symmetry and location of the photon defects are generally indicative of biparietal thinning. (Nucl Med Mol Imaging 2007;41(3):260-262)

**Key Words:** bone scintigraphy, SPECT, Tc-99m MDP, biparietal thinning

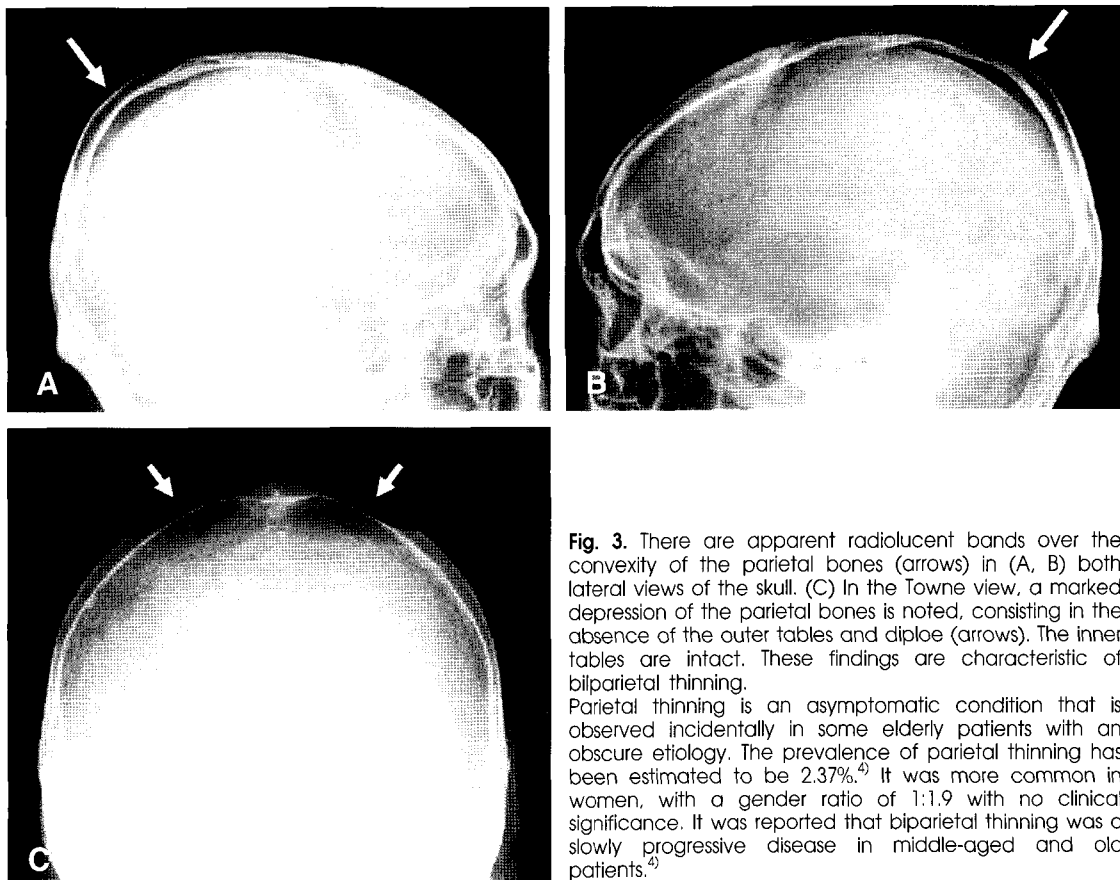


**Fig. 1.** A 68-year-old man with a small cell carcinoma of the lung and adenocarcinoma of the prostate underwent Tc-99m MDP bone scintigraphy for the evaluation of skeletal metastases. (A, B) Both lateral, (C) vertex, and (D) caudal-angled images of the skull on bone scintigraphy show symmetrical well defined photon defects in both parietal regions (arrows). These scintigraphic abnormalities might be mistaken for metastatic bone diseases in patients with malignant diseases.<sup>1,2)</sup> However, the symmetry and position of the photon defects are generally indicative of biparietal thinning.<sup>3)</sup>

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**Fig. 2.** (A-D) Sagittal, transaxial, and coronal images of single photon emission computed tomography shows symmetrical photon defects in both parietal regions (arrows).



**Fig. 3.** There are apparent radiolucent bands over the convexity of the parietal bones (arrows) in (A, B) both lateral views of the skull. (C) In the Towne view, a marked depression of the parietal bones is noted, consisting in the absence of the outer tables and diploë (arrows). The inner tables are intact. These findings are characteristic of biparietal thinning.  
Parietal thinning is an asymptomatic condition that is observed incidentally in some elderly patients with an obscure etiology. The prevalence of parietal thinning has been estimated to be 2.37%.<sup>4)</sup> It was more common in women, with a gender ratio of 1:1.9 with no clinical significance. It was reported that biparietal thinning was a slowly progressive disease in middle-aged and old patients.<sup>4)</sup>

## References

1. Hattner RS, Lapidus AS: Loch im kopf (hole in the head). *Clin Nucl Med* 1994;19:746.
2. Rao BK, Lieberman LM: Parietal thinning: a cause for photopenia on bone scan. *Clin Nucl Med* 1980;5:313.
3. Lim ST, Sohn MH. Bilateral symmetrical photon defects in the parietal bones on Tc-99m MDP bone scintigraphy: bilateral parietal thinning. *Clin Nucl Med* 2001;26:570-1.
4. Cederlund CG, Andren L, Olivecrona H. Progressive bilateral thinning of the parietal bones. *Skeletal Radiol* 1982;8:29-33.