A hole in the skull: CT manifestations of a solitary plasmacytoma in skull

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ABSTRACT Plasmacytoma can present as multiple myeloma, solitary plasmacytoma of the bone (SPB), or extramedullary plasmacytoma. SPB is a rare entity that composes of malignant plasma cells and involves the bone to form only one or two lesions without evidence of disease dissemination. It accounts for only 4% of malignant plasma cell tumors. We report a case of SPB in the skull in a 59-year-old male. CT scan revealed an 8 cm ×9 cm osteolytic lesion on the scalp of skull with a well demarcated margin. A cake-like mass was revealed at CT soft tissue window. The mass was completely excised and histological examination revealed plasmacytoma. The diagnosis of SPB was established after ruling out multiple myeloma.

KEY WORDS Plasmacytoma; multiple myeloma; solitary plasmacytoma of the bone; extramedullary plasmacytoma; skull

Quant Imaging Med Surg 2012;2:61-62. DOI: 10.3978/j.issn.2223-4292.2012.01.02

A 59-year-old man presented a painless palpable soft hollow on the scalp of skull. The medical history was unremarkable. Palpation showed a sunken area at the frontal bone. CT scanning and three-dimension reformation were performed. A large size osteolytic lesion measured 8 cm ×9 cm was demonstrated (Figure 1,2). It was well demarcated with small remaining bone fragments. CT Soft tissue window revealed a cake-like mass (Figure 3). Three-dimension reformation showed a big hole at the frontal bone (Figure 4). The mass was completely removed. Histological examination showed the tumor was composed of plasma cells and a diagnosis of plasmacytoma was suggested (Figure 5). No monoclonal proteins were found in the serum or urine, and bone marrow biopsy was normal. Skeletal scintigraphy did not detect any other lesions. Therefore, multiple myeloma was ruled out and the diagnosis of SPB was established.

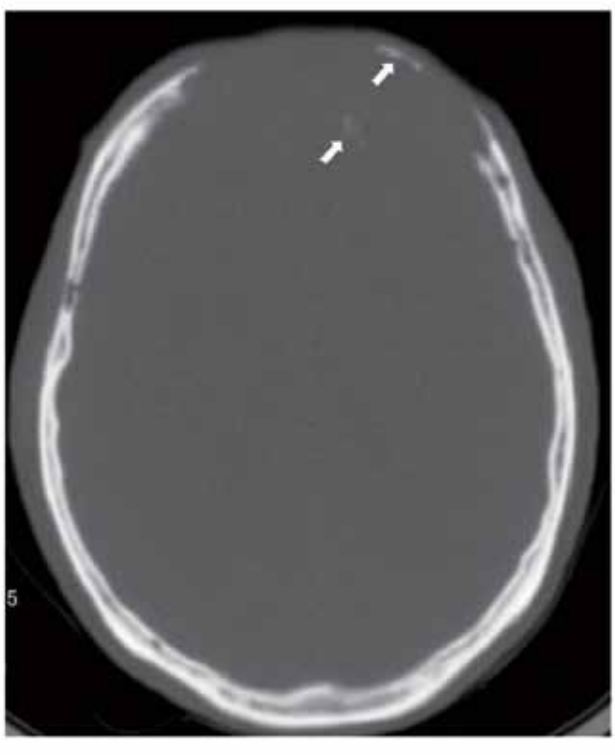

Figure 1. Transversal CT scan shows a large osteolytic lesion with small remaining bone fragments (arrows) in it.

No potential conflict of interest.

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Submitted Jan 04, 2012. Accepted for publication Jan 11, 2012.
Available at http://www.amepc.org/qims

ISSN: 2223-4292

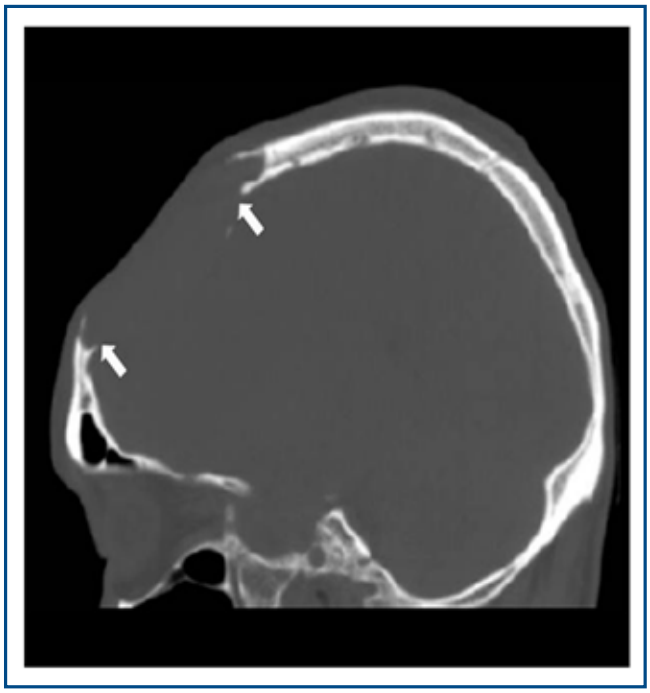

Figure 2. CT Sagittal multiplanar reformation shows a well demarcated osteolytic lesion (arrows).

Figure 3. Transversal CT at soft tissue window depicts a cake-like mass (arrows).

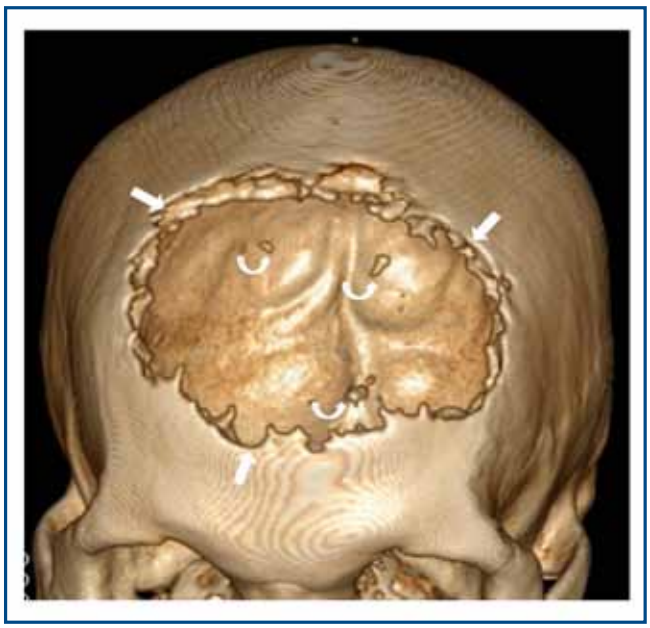

Figure 4. CT three-dimension reformation shows a big bone-lytic hole (arrows) in the frontal bone with well-defined but irregular margin, and several small bone fragments (curve arrows).

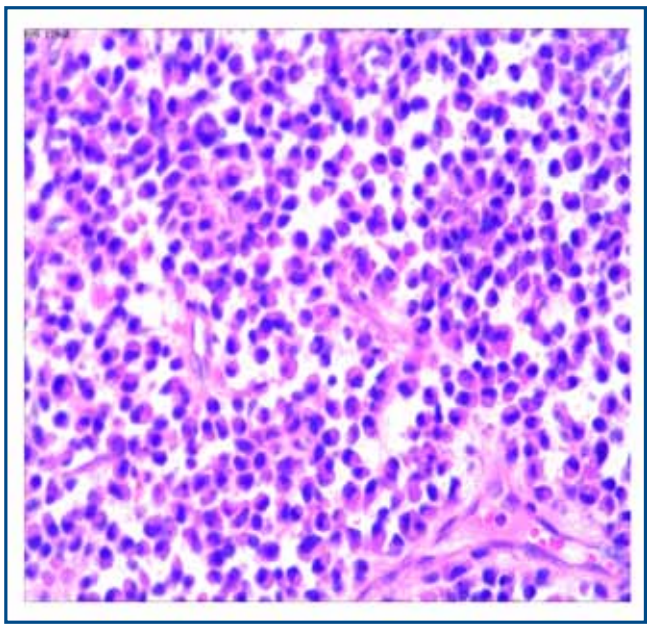

Figure 5. Photomicrograph (HE, ×100) demonstrates the neoplasm composed of layers of plasma cells.

Cite this article as: Gong JS, Kang WY, Zhu J, Xu JM. A hole in the skull: CT manifestations of a solitary plasmacytoma in skull. Quant Imaging Med Surg 2012;2:61-62. DOI: 10.3978/j.issn.2223-4292.2012.01.02