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# Large skull metastasis of follicular thyroid carcinoma

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## DESCRIPTION

A 62-year-old woman presented with gradual enlargement of a tumour mass on her head. She had first noticed it about 2 years previously, but it had started to enlarge several months before she came to our clinic. She was alert but reported mild headache and nausea. We found a large soft and elastic tumour on the left temporal and occipital region of her head. Thyroid tumour was undetected on palpation. Head CT and brain MRI revealed a large tumour; three-dimensional CT showed skull bone destruction (figure 1). CT also revealed a calcified tumour in the right thyroid lobe, small granular pulmonary shadows and osteolysis in the right pubic bone (figure 2). Based on fine-needle aspiration biopsy (FNAB) of the thyroid tumour, follicular neoplasm was suspected. Serum thyroglobulin level was 89 177.1 ng/ml (0.0–100.0 ng/ml). We performed tumourectomy of the head and total thyroidectomy. Histopathological examination showed follicular thyroid carcinoma (FTC) with skull metastasis (figure 3). Following surgery, the patient's serum thyroglobulin level was reduced to 22 932.3 ng/ml and her headache and nausea disappeared. She experienced no disorientation, paralysis or gait disorder and at follow-up 1-year after surgery she was asymptomatic.

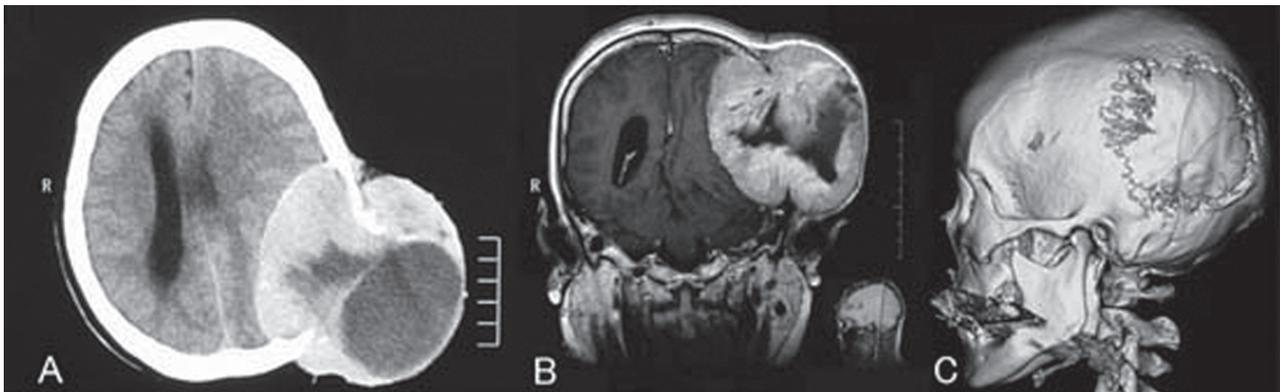
FTC occasionally develops distant metastases to the lungs and bones but it is less likely to metastasise to the skull.<sup>1</sup> Some cases of FTC metastasising to the skull have been reported,<sup>2,3</sup> but the present case is rare and unique due to the shape and size of the skull base metastatic tumour. This patient was diagnosed with a thyroid tumour approximately 20 years ago but failure to follow-up gradually led to multiple metastases to the skull, lungs and pubic bone. FTC by FNAB is difficult to diagnose, therefore we must carefully observe the size of thyroid tumours and distant metastasis at follow-up.

**Competing interests** None.

**Patient consent** Obtained.

## REFERENCES

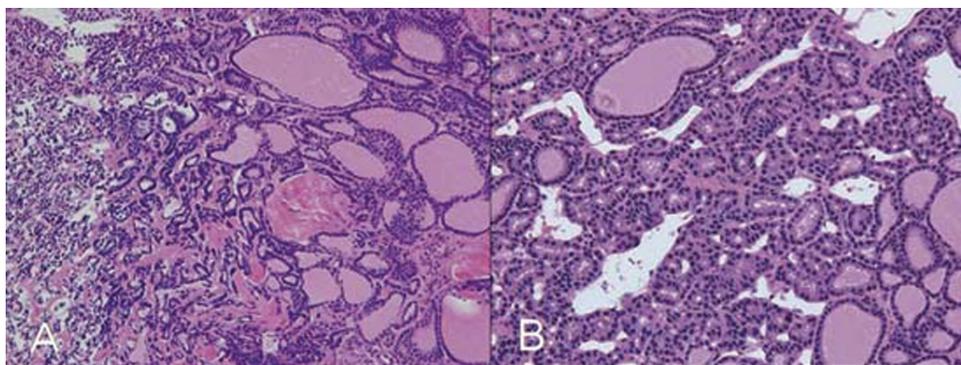
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**Figure 1** Head CT (A, transverse section) and T1-weighted brain MRI and (B, coronal section) showing a large tumour in the posterior left region of her head measuring 11.4 cm at its greatest diameter. The brain was compressed with reduction in the size of the cerebral ventricles. Three-dimensional CT (C) showing skull bone destruction.



**Figure 2** CT showing a calcified tumour with an irregular border in the right thyroid lobe (2.8×3.0 cm) (A) small granular pulmonary shadows (B) and osteolysis in the right pubic bone (C).



**Figure 3** Photomicrograph of the surgical specimen. Tissue removed from the skull base tumour (A) showing structure of the thyroid follicle. Metastatic thyroid carcinoma was suspected. Thyroid tumour (B) showing follicular thyroid carcinoma with follicle cell proliferation, nuclear enlargement and hyperchromasia (H&E stain).

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