

Chronic Hypoparathyroidism Due to Partial Thyroidectomy with Intracranial Calcification

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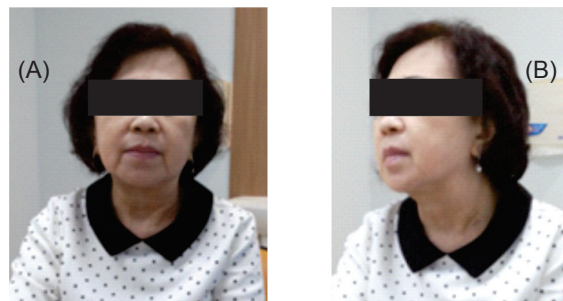


Figure 1. (A) Front view of the neck. (B) Lateral view of the neck

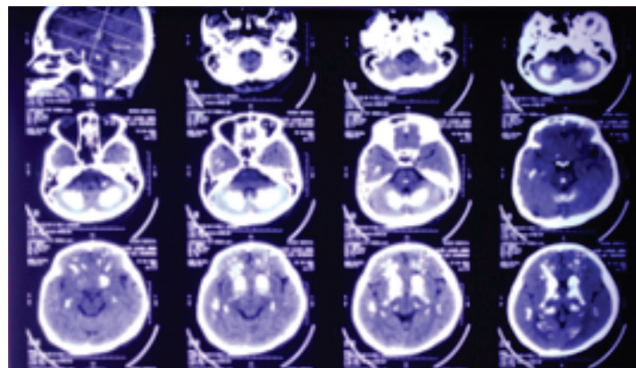


Figure 2. Intracranial calcification due to hypoparathyroidism

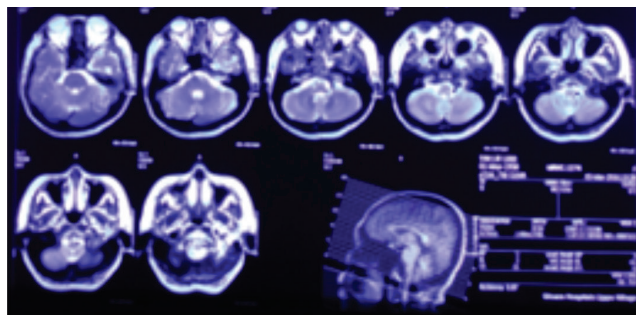


Figure 3. Intracranial Calcification due to hypoparathyroidism

A 57 year old female came with the complaint of recurrent headache, often fatigue, and sometimes feel numbs and rigid in her extremities, no other symptom was noted. Her body weight is stable and she was in menopausal state (**Figure 1a and 1b**). She had a history of partial thyroidectomy 20 years ago and continues thiamazole 2.5 mg with seldom regular consult to physician.

From the physical examination, the patient had a scar from thyroid surgery and other organs were in the normal condition. From laboratory examination, there was slight normocytic normochromic anemia (Hb: 10.7 gr/dL), normal fT4: 1.21 ng/dL (0.7-1.48 ng/dL), slightly low Calcium: 8.3 mg/dL (8.5-10.2 mg/dL), others were within normal limit but there was no Phosphorus level data.

She was currently on medication: thiamazole 2.5 mg once daily, CaCO₃ 500 mg once daily, and alfacalcidol 1 mcg once daily, to prevent the rigid and numbness that she felt before.

For further investigation, we performed a PTH test with result of hypoparathyroidism with parathyroid hormone 7 pg/mL (15-65 pg/mL) and brain CT-scan with result there was a symmetrical bilateral calcification in radiate corona, frontal lobes, temporal lobes, basal

ganglia, thalamic, and dentate nuclei of cerebelli (**Figure 2 and Figure 3**). There was no data about the histopathology examination of the thyroid tumor because the patient did not keep the data.

The mechanism of intracranial calcification in hypoparathyroidism, more often seen in pseudohypoparathyroidism than in idiopathic hypoparathyroidism, has not been completely elucidated. It may be related more to the duration of hypocalcaemia and hyperphosphataemia than parathyroid hormone itself. Hyperphosphataemia promotes ectopic calcification in brain tissue in hypoparathyroidism.¹ Intracranial calcification is one of the features of chronic hypocalcemia, and the calcifications typically involve basal ganglia, thalami, and the cerebellum.²

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