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Diffuse Incidental Dural Calcifications

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Capsule Summary

What is already known
Diffuse dural calcifications may be seen on incidental imaging and can be associated with hyperparathyroidism, vitamin D intoxication, Gorlin syndrome, hypertelorism, Maroteaux type brachyolmia, myotonic dystrophy, renal failure, and malignancy.

What is new in the current study
This case highlights the importance of diffuse dural calcifications as an incidental finding that requires referral for endocrinologic evaluation.

A 30-year-old woman presented with severe headache and left flank pain after a motor vehicle collision. On examination, she had moderate tenderness to palpation to her left flank but an otherwise unremarkable examination with no focal neurologic deficits. Complete blood count, complete metabolic panel, and lipase were unremarkable (Table 1). She had a normal computed tomography (CT) of the abdomen/pelvis. A non-contrast CT of the head was also obtained (Figure 1).

The CT of the head demonstrated dense calcifications of the dura along the bilateral cerebral convexities, falx, and tentorial leaflets concerning for hyperparathyroidism. Excess secretion of parathyroid hormone leads to hypercalcemia through increased bone resorption, increased intestinal absorption, and decreased urinary excretion of calcium. It is frequently diagnosed after the fifth decade of life by asymptomatic lab abnormality with common clinical manifestations being renal stones and decreased bone mineral density.[1] The presence of cerebral calcifications as a sequela of hyperparathyroidism is rare. The differential diagnosis includes vitamin D intoxication, Gorlin syndrome (Nevoid Basal Cell Carcinoma Syndrome), hypertelorism, Maroteaux type brachyolmia, myotonic dystrophy, renal failure, and malignancy.[2] This patient’s age also raised suspicion for Gorlin syndrome as 90% of patients have ectopic calcification by age 30.[3]
Based upon the CT, we sent a parathyroid hormone level, which was 214 picograms/mL (normal range: 10-55 picograms/mL). She had no history of basal cell carcinoma, so Gorlin syndrome was deemed less likely. She was diagnosed with hyperparathyroidism and referred to endocrinology for further management with a plan for parathyroidectomy. This case highlights the importance of clinicians’ awareness of diffuse dural calcifications as an incidental finding that requires referral for endocrinologic evaluation.

**Ethics statement:**

Informed consent for publication of the research details and clinical images was obtained from the patient. Conflicts of interest: The authors have no relevant conflicts of interest to declare. Funding: The authors received no financial support for this study. Author contributions Conceptualization: MG; Investigation: all authors; Project administration: all authors; Supervision: MG; Visualization: all authors; Writing—original draft: all authors; Writing—review & editing: all authors. All authors read and approved the final manuscript.
References:


Figure 1. Computed tomography of the head with calcifications (arrows) of the dura along the bilateral cerebral convexities, falx, and tentorial leaflets