Calcification of Basal Ganglia in Chronic Hypoparathyroidism

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Case Presentation

- A 39 years old lady with Type 1 Diabetes was repeatedly hospitalised with seizures thought to be related to hypoglycaemia though capillary glucose was never documented in these episodes.
- She also had primary hypoparathyroidism for the last ten years and was on calcium and vitamin D supplements.
- She had cataract removal from right eye and also had early cataract in left eye.
- Her family also confirmed her declining memory over past 2 years. She would take long pauses trying to recall things.
- On examination she had slow speech, serpentine gaze and shuffling gait. Chvostek’s sign and Trouseau’s signs were negative.
- Rest of the systemic examination was normal.
- Her calcium was reasonable with adjusted calcium of 2.2-2.5mmol/L on treatment.

Discussion

- Hypoparathyroidism is the common cause of pathologic calcification in the brain though 0.3-1.5% cases are physiological.
- Seizures occur in up to 70% of patients with symptomatic hypoparathyroidism.
- Parkinsonism, dystonia, hemiballismus, choreoathetosis, and oculogyric crises occur in 5-10% of patients with idiopathic hypoparathyroidism but are less common in patients with surgical hypoparathyroidism or other causes of hypocalcemia.
- Parkinsonism seems to be resistant to levodopa but in some cases improvement occur with calcium and vitamin D replacement.
- The mechanism of intracranial calcification is not completely understood. It may be related to the duration of hypocalcaemia and hyperphosphataemia than parathyroid hormone itself.
- The goal of therapy in hypoaparathyroidism is to control symptoms and minimise complications. Use of PTH is not recommended.
- In our case, initially hypoglycaemia was thought to be the cause of patient’s seizures and neuropsychiatric symptoms as serum glucose was never documented in these episodes.

Conclusion

This case emphasizes the importance of thinking about the whole spectrum of the disease even though the biochemical markers are stable on treatment.

References

3. Chvostek’s sign.