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Seizure and borderzone infarct in Pheochromocytoma: A Case Report

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Abstract

A 56 year old male presented with seizure, intermittent, progressive headache coupled with episodic fluctuations in blood pressure.

He had intermittent, progressive headache with fluctuating blood pressure of 110/80 to 180/100mmHg for 2 years. There were no fever, excessive sweating, blurring of vision, dizziness, palpitations, difficulty of breathing, nausea, vomiting, change in sensorium, focal weakness nor paresthesia. Maintenance medications were Telmisartan 40mg once a day, Amlodipine 5mg once a day and Clonidine 75mcg as needed for blood pressure of 160/100 mmHg and Atorvastatin 10mg once a day. 3 months prior to consult, headache increased in intensity with VAS of 6/10, increased in frequency to 3 times per week, localized at the bilateral fronto-temporal area, usually experienced upon waking up in the morning, associated with blood pressure of 180/110 mmHg. Intake of Clonidine 75mcg sublingual slightly relieved his headache and decreased his Blood pressure to 140-150/80-90 mmHg. Condition persisted with note of increasing severity and frequency of headache associated with fluctuating blood pressure. Few hours prior to admission, his headache became worst with VAS of 9-10/10, associated with elevated BP of 240/120 mmHg, and non-projectile vomiting of approximately 8 times of previously ingested food. After approximately 15 minutes, he manifested with generalized tonic seizure described as upward rolling of eyeballs with no preferential gaze, stiffening and extension of both upper and lower extremities lasting for about 10-20 seconds. He had 2 seizure episodes, 2 hours apart with regain of memory in between attacks, with incidence of disorientation and restlessness, no loss of bowel or bladder control noted. He was rushed to a nearby hospital where a 3rd seizure episode occurred. The patient was seen confused with left-sided hemiplegia(4/5). The rest of the physical findings were unremarkable except for elevated BP of 240/120 mmHg.

Routine laboratory evaluations were acceptable (CBC, Na, K, BUN, Creatinine, PT, PTT, Urinalysis, Chest X-ray). Cranial MRI revealed evolution of border zone infarct in superior fronto-parietal lobe bilaterally, left occipital and right temporal lobes. Slightly elevated 24-hour urine fractionated metanephrines, right adrenal mass on abdominal CT scan and histopathology were consistent with pheochromocytoma.

He was on Nicardipine drip titrated until systolic BP was 110-130mmHg then shifted to Terazosin and Diltiazem given for 10 days then underwent right adrenalectomy. 2 months post-adrenalectomy, the patient had controlled blood pressure of 120-140/80-90mmHg with no recurrence of seizure, headache and full recovery of left sided body weakness. Phaeochromocytoma is a catecholamine-secreting tumor that contributes to our patient's headache and cyclic fluctuations of hypertension and hypotension. This condition may lead to the development of hypertensive encephalopathy, a reversible cerebral condition leading to vasospasm of cerebral vasculature followed by a decrease in blood flow which manifest as neurologic deficits and altered mentation. The sudden drop in blood pressure possibly secondary to the cyclic fluctuation of BP which is an inherent characteristic of pheochromocytoma and the patient's response to anti-hypertensive medication causing sudden decrease in blood pressure and cerebral perfusion may have caused our patient's borderzone infarct, involving the junction of the distal fields of 2 non-anastomosing arterial systems.. The excessive catecholamine in the circulation, the hypertensive encephalopathy and the presence of borderzone infarct, altogether may have contributed to our patient's seizure episode.

Since neurologic manifestation is not frequent for pheochromocytoma, it is of vital importance therefore to know this atypical presentation, so that this diagnosis will be suspected in patients with focal cerebral symptoms, particularly in the presence of intermittent hypertension or other paroxysmal symptoms suggestive of pheochromocytoma.

Biography

Dr. Maria Iressa Macahia, 30years old, female, conferred the degree of Doctor of Medicine in 2008 at Far Eastern University- Dr. Nicanor Reyes Medical Foundation. She finished her residency training for Internal Medicine at St. Lukes Medical Center-Quezon City, Philippines last December 2012 and passed the Philippine Specialty Boards in Internal Medicine conducted by the Philippine College of Physicians on January 2013.