

Pseudohypoglycaemia in a case of bilateral cervical rib

Sir,

A 60-year-old woman was brought to the emergency room with the complaints of giddiness and fall at home

sustaining head injury. Apart from dementia, rest of the history was unremarkable. She was thin built, very pale, disoriented, and had a scalp wound over the left parietal region which was bleeding actively. Her vital parameters were normal except for feeble radial pulses and cold hands. Fingertip capillary glucometer recorded a glucose value of 34 mg/dl which was treated immediately with intravenous glucose infusion, and

the scalp wound was cleaned and sutured under local anaesthesia. Computed tomography of the brain revealed no abnormality. Blood investigations showed a haemoglobin of 4.8 gm/dl with a hypochromic microcytic anaemia and thrombocytosis. She was shifted to the neuro intensive care unit. Her glucose levels were persistently less than 40 mg/dl. She was evaluated for chronic anaemia and persistent hypoglycaemia. Ultrasonography of the abdomen, thyroid function tests and cortisol levels were normal. She was having low serum iron, ferritin and transferrin saturation with increased total iron binding capacity suggestive of iron deficiency anaemia. She did not have any history of bleeding episodes and stool for occult blood was negative. There was significant discrepancy noted with the laboratory blood glucose measurements and point of care glucometer values taken from the finger tips. Further glucose was not administered as she was asymptomatic and the glucometer values were discredited, considering it as apparatus error. Two units of packed red cells were transfused and the haemoglobin improved to 7.8 gm/dl. Subsequently, she developed cyanosis of bilateral finger tips and the pulse oximeter failed to show a plethysmograph. Surprisingly, she did not have further episodes of hypoglycaemia even with capillary glucometer testing. The peculiarity was that these values were from blood sampling done in the toe tips in view of cyanosis in the finger tips. There was correlation between laboratory glucose values and glucometer values obtained from toe tip capillaries. Eventually, she was diagnosed to have bilateral occult partial cervical rib in the chest radiograph which was managed conservatively.

Our patient was a simple case of iron deficiency anaemia due to poor iron intake. She was symptomatic with giddiness and fatigue which led to a trivial fall and head injury. She also had partial cervical rib. Cases of partial cervical rib might not present with symptoms of hypoperfusion. Though the incidence of cervical rib is around 1.12 percent in the Indian population, most cases are unilateral and are incidentally detected. Rarely they can cause thoracic outlet syndrome.^[1,2] Our patient had chronic anaemia which could have improved blood rheology and precluded the manifestations of low perfusion.^[3] She did not present with peripheral cyanosis initially, probably due to low haemoglobin values.^[4] Capillary glucose could be low in these

patients due to the hypoperfusion, stasis and subsequent demand supply mismatch. Our case was unique in the bilateral nature of presentation wherein the anaemia prevented the manifestations of cyanosis and hypoperfusion, necessitating extensive workup for the cause of hypoglycaemia. Discrepancy of the laboratory and glucometer values added further to the confusion. Initially, the symptoms of head injury also masqueraded as that of hypoglycaemia necessitating unnecessary treatment of the pseudohypoglycaemia. This was a case of regional hypoglycaemia which is falsely protracted as systemic hypoglycaemia due to unavoidable circumstances.^[5] Nevertheless, we readdress that cases with hypoperfusion of fingertips can give low capillary glucose measurements and hence have to be interpreted carefully.

Declaration of patient consent

Written informed consent was obtained from the husband of the patient in view of her head injury, dementia and confusion.

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Conflicts of interest

There are no conflicts of interest.

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