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Researches Classified – Panels Award – Case Report

Nutritional deficiency as a complex cause of reversible dementia and cutaneous manifestations in elderly: case report and review

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Introduction: vitamin deficiency can be an important cause of cognitive impairment and cutaneous manifestations in elderly with a history of malnutrition. However, to understand the different etiologies and to choose the right one to proper disease management might not be an easy task, especially in individuals from this population with these findings, sometimes non-specific. Hypothesis of reversible dementia associated with pellagra and B12 vitamin are important. In the case of electrolytes deficiency, less likely, there is the hypothesis extrapontine osmotic demyelination syndrome. The following case discuss these findings together.

Objective: to present a case of reversible dementia and cutaneous manifestations associated with vitamin deficiency in a context of neurological complication after untimely correction of sodium; to discuss pathophysiological processes relevant to the case.

Case report: A 62-year-old woman in meat restriction for 1 year, with post-radioiodine hypothyroidism. Admitted to investigate well delimited erosions with scaling, hyperchromia and blisters in both hands and glabella. The major hypothesis at the time was pellagra. However, in few weeks she developed other clinical findings: food intolerance, pain and abdominal distension and some sort of cognitive impairment. Computed tomography (CT) of the abdomen showed fluid distention with air level throughout the colonic frame and distal segment of the ileum, without obstructive factors. There is loss of the usual haemorrhages of the sigmoid and descending colon, suggesting chronic alterations. Rectosigmoidoscopy was performed and parental feeding was introduced. There was evolution with improvement of cutaneous lesions and development of hyponatremia, followed by anemia, reduction of level of consciousness and hemodynamic instability. Magnetic resonance imaging presented changes suggestive of extra-pontine myelinolysis associated with hyponatremia. Laboratory tests revealed anti-parietal cell antibody with a 1/160 reagent result, upper digestive endoscopies compatible with atrophic gastritis and gastric polyps with absence of active or previous bleeding. Following the infirmary, the patient achieved a progressive improvement in the level of consciousness and dementia, resuming most of the cognitive functions. The hypothesis of extrapontine myelinolysis associated with the correction of hyponatremia and pellagra, secondary to the vegan diet was suggested by radiologists.

Discussion: the case discussed is a probable reversible dementia associated with vitamin deficiency. Factors suggestive of this context were: dermatological lesion, restricted diet to meat, atrophic gastritis in upper digestive endoscopy and progressive dementia during hospitalization. As a confounding factor, there was an untimely correction of hyponatremia with findings suggestive of extrapontine myelinolysis according to the radiology team, which could have contributed to the dementia symptoms, though less likely.

Conclusion: Pellagra and other nutritional deficiencies should be considered in the diagnosis of patients with restrictive diets, especially those with gastrointestinal tract disorders. The correction of hypernatremia, when present, should be adjusted with caution, aiming at the protection of the central nervous system.

Keywords: Vitamin deficiency; Reversible dementia; Hypernatremia; Osmotic demyelination syndrome.