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(CASE REPORT)

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Adrenocortical corticosteroids and megaloblastic anemia responsible ischemic stroke: A case report

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Abstract

Stroke disease can result from traditional cardiovascular risk factors and by cancer, especially adrenocortical corticosteroids by hypercoagulability and megaloblastic anemia would be possibly though hyperhomocysteinemia. We report the case of a patient aged 65 years, without significant pathological , diagnosed with a left adrenocortical retained in front of a mass at the level of the left adrenal compartment, irregular shape, fairly well limited, isodense to spontaneous contrast (33UH), enhanced by the PDC in a heterogeneous way delimiting areas of necrosis measuring 9cm, with an absolute Wash out of 25% and relative to 11%. Associated with an attack of the general condition evolving rapidly gradually is a weight loss of 16 kilogram over 2 months. With the biological Assessment a cortisol cycle broken with cortisolemia from midnight to 12, braking at 1.7 and CLU at 4 times normal. The patient presented during hospitalization megaloblastic anemia and thrombocytopenia with vitamin B12 deficiency confirmed by myelogram and anti-intrinsic positive antibody treated with courses of hydroxocobalamin in intramuscular, after 4 days the patient presented upon waking left hemiplegia, left facial paralysis with dysarthria on Cerebral CT scan showed ischemic stroke of the right middle cerebral artery. The patient was put on anticoagulant therapy. The evolution was marked in a context of improvement of anemia and thrombocytopenia and the resumption of motor skills of the left hemibody. The patient is put out before the criterion of non-operability to predict a tumor excision after a good medical preparation for surgery. There is a relationship between Biermer anemia and neoplastic pathologies in stroke disease.

Keywords: Adrenocortical corticosteroids; Megaloblastic anemia; Ischemic stroke; Homocysteinemia; Hydroxocobalamin

1. Introduction

The prevalence of megaloblastic anemia in the adult population is poorly documented but in the elderly, it has been clearly shown that the prevalence of macrocytic anemia increases after the age of 65 years especially in men. The most common etiology of deficiencies due to malabsorption of vitamin B12 and folate. They have an action in the conversion of homocysteine into methionine: an increase in homocysteinemia is currently considered a cardiovascular risk factor. Several studies have shown a strong inverse correlation between the level of circulating folate (or even ingested folate) and homocysteinemia. Also the diagnosis of cancer increases in some cases the risk of stroke. It has been found that this phenomenon occurs over time after a cancer diagnosis, and is more common in people with cancer.

2. Case presentation

We report the case of a patient aged 65 years, without significant pathological , diagnosed with a left adrenocortical retained in front of a mass at the level of the left adrenal compartment, irregular shape, fairly well limited, isodense to

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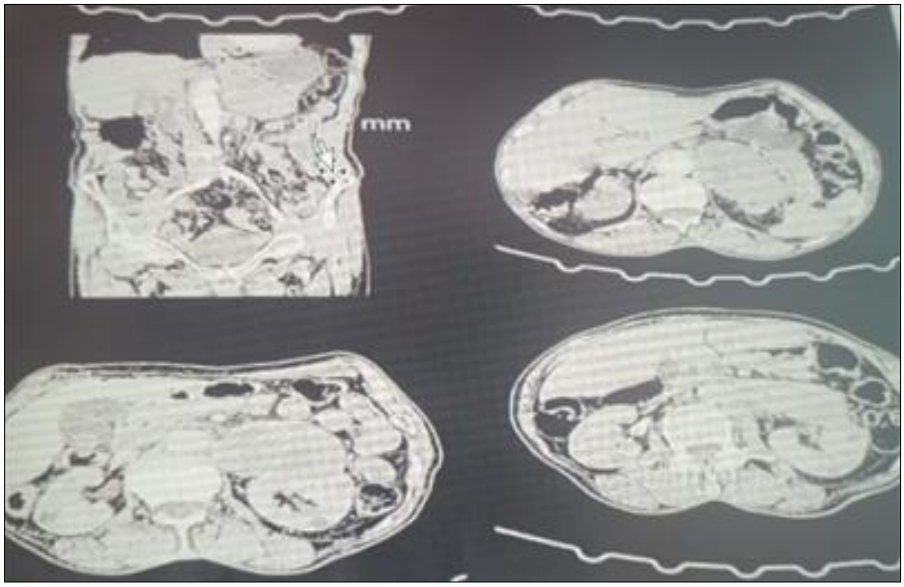

Figure 1 Spontaneously isodense left adrenal tissue mass, delimiting areas of necrosis measuring 9cm

3. Discussion

The adrenal glucocorticoid stress response in humans causes catabolism, increasing blood glucose and heart rate, and possibly potentiates ischaemic damage to neurons. These effects could induce secondary brain damage in acute stroke. Acute stroke mortality related to increasing serum-cortisol levels. The cortisol was associated with stroke severity and markers reflecting stroke severity [1]. In transient cerebral circulation disorders, a significant age difference in adrenal cortex function has not been established. In the acute period of a stroke, there is an increase in glucocorticoid activity that is more clearly expressed in the younger person and some inhibition of androgenic function observed mainly in the elderly[2]. Secondary adrenocortical hypercortisolemia is thought to be a marker of the stress response following stroke, a significant correlation between serum cortisol levels and some markers of the inflammatory response, such as fibrinogen level, and beta-thromboglobulin level, was established in stroke patients [3] . Prognostic significance of Hypercortisolemia in acute stroke patients seems to be related to the inflammatory response rather than to the stress response. Also, Biermer's disease is an autoimmune disorder characterized by vitamin B12 deficiency the ischemic stroke is an uncommon complication of Biermer's disease, possibly though hyperhomocysteinemia [4] .Hyperhomocysteinemia is a known marker, and probably a risk factor, for stroke, fostering atherosclerosis and thrombosis [5] .It can be found among individuals suffering from homocystinuria, but also when there is deficiency of vitamin B12 or folic acid. Vitamin B12 supplementation would reduce homocysteine concentration which in turn would reduce the risk of ischemic stroke [6] .

4. Conclusion

Megaloblastic anemia associated with a neoplastic context is a criteria for suspected thromboembolic pathology or ischemic stroke. vitamin B12 deficiency was common among patients with hyperhomocysteinemia and thrombosis. Moreover, Hyperhomocysteinemia was caused by vitamin B12 deficiency and/or chronic renal failure in most patients with thrombosis.

Compliance with ethical standards

Acknowledgments

We would like to thank the teams of endocrinology, hematology, radiology and biology departments of Mohammed VI University hospital of Marrakech.

Disclosure of conflict of interest

The authors declare no conflict of interests.

Statement of ethical approval

The present research work does not contain any studies performed on animals/humans subject by any of the authors.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

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