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Case Report

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GAYET-WERNICKE ENCEPHALOPATHY AN OVERLOOKED DIAGNOSIS IN PATIENTS WITH CANCER: ABOUT 2 CASES

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ABSTRACT

Gayet-wernicke encephalopathy is a neurologic syndrome usually related to chronic alcoholism, but many other causes can lead to this condition especially in patients suffering from gastro-intestinal tracts diseases.[1] Cancer patients especially can be vulnerable and a good target because of the malnutrition , the incoercible vomiting gastrectomy and also some chemodrugs that can decrease the level of thiamine in the blood.[2-5] We expose in this 2 cases the importance of recognizing this complication in order to treat it in time 2-Cases.

Case 1

A 45 years old women with a locally advanced gastric adenocarcinoma (T4N1M0) receiving Folfox 4 (5fluorouracil 400 mg/m2 bolus + 600 mg/m2 in infusion for 22h day 1 +leucoverin 200 mg/m2 day 1 and 2 + oxaliplatin 85 mg/m2 day 1 in 2 hours), this protocol was chosen over the FLOT because of the general condition of the patient.

She received 2 cycles of it and 5 days after she is readmitted for nausea and vomiting grade 3, the dysphagia was present from the beginning but worsened, so a abdomen pelvis computed tomography was done and but no obstruction of the oesophagogastric junction was observed, the patient was put under parenteral nutrition.

2 days after, she developed a confusion and an ataxia and then diplopia the 4th day.

The laboratory analysis showed low albumin levels 2.6 g/ dl and a slightly raised blood glucose concentration.

The brain CT scan was strictly normal but the MRI showed symmetrical high signal on the thalami, the hypothalamus and the mammillary bodies on the T2.

She received the thiamine injections 100 mg per day on day 6th but her general condition deteriorated and she died on day 7th.

Case 2

60 years old woman with a recent discovery of gastric adenocarcinoma (signet ring cell carcinoma) underwent curative gastrectomy for gastric carcinoma.

She received adjuvant chemotherapy using 5 fluorouracil-cisplatin 3 cycles.
1 Month after the last chemotherapy cycle she developed an anorexia, a slurring of speech and a horizontal nystagmus.

No abnormal findings on the routine laboratory analysis and no abnormal changes on the brain CT scan.

The diagnosis of Wernicke s encephalopathy was confirmed by the presence of high intensity area in the third ventricule and periaqueductal regions on T2.

Intravenous thiamine and multivitamins were immediately started with a good clinical evolution a week after.

3 DISCUSSION

Gayet-Wernickes encephalopathy is the result of a deficiency in vitamin B1 (thiamine) which is a cofactor for several enzymes in the krebs cycle and the pentose phosphate pathway and thus play a major role in carbohydrate metabolism.[6-7]

A decrease in their activity may lead to damage in areas of the brain impeding normal neural signaling and mental impairment.[7-8]

This disease if quite rare in non alcoholic patients but nonetheless reported in malnourished ones, those whom underwent gastric surgery, and can be seen as a consequence of hyperemesis gravidarium and sepsis.[2-5]

From a review of the clinical characteristics of WE in GI cancer patients there seems to be a female predominance, all ages and importantly the surgery seems not to play a defining role, this seems to be the case of our patients as well, also the majority of patients needed at one stage a parenteral nutrition and experienced a rapid and general deterioration.[9]

In general, it is characterized by a clinical triad consisting of mental confusion, ataxia and oculomotor disturbances (ophtalmoplegia, nystagmus), seizure can also be seen but exceptionally and sign the severity of the long term thiamine deficiency.[10-11-12]

The problematic that we try to show by publishing this 2 cases but also from what we have found from the literature is that its not easy to diagnose the WE in patients with GI cancer as the symptoms are nonspecific and so other causes are suspected first like brain metastasis, electrolyte imbalance or any other metabolic conditions or even delayed encephalopathy due to 5FUeven if the possibility to developing it is pretty low.

On top of that, there is no specific laboratory test and even the presence of a low total thiamine or thiamine diphosphate levels is not sufficient for diagnosis, so the MRI remains the investigation of choice by showing a symmetrical hypersignal of the mammillary bodies, the tectal plate, the periaqueductal grey matter and the periventricular region of the third ventricule including the paramedian thalamic nuclei on T2.[10-13-14-15]

When the diagnosis is partially confirmed, the parenteral thiamine administration should not be delayed, the recommended regimen is 500 mg of thiamine intravenously infused over 30 min once day for 5 days in combination with other vitamins.[12-16]

The oral administration of thiamine is ineffective in correcting a moderate or severe thiamine deficiency but can be recommended for the prevention and maintenance stages.

CONCLUSION

It is Important to consider wernickes encephalopathy in non alcooholic patients specially those suffering from GI malignancies and thiamine supplementation should be started as soon as the diagnosis is suspected to speed the recovery.

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