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CORRESPONDENCE

Patients with unexplained neurological symptoms and signs should be screened for vitamin B12 deficiency regardless of haemoglobin levels

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To the Editor:

Vitamin B12 (hydroxycobalamin) is vital for the proper functioning of the nervous system and for haemopoiesis [1]. There is a high prevalence of B12 deficiency in the general population, particularly in vegetarians, and the elderly [1]. B12 deficiency can have a variety of presentations, including visual field defects, ophthalmoplegia and optic atrophy [2, 3]. NICE guidance currently states that pernicious anaemia is the most common cause of severe vitamin B12 deficiency [4, 5] and screening for deficiency should not take place unless macrocytic anaemia is present [5, 6]. We aimed to investigate patients with neurological signs secondary to severe B12 deficiency and assess if there was any correlation between severe Vitamin B12 deficiency and macrocytic anaemia.

This study retrospectively reviewed the medical records of all patients who presented with neurological signs to a single eye clinic (GWH, Swindon) and were found to be severely deficient in Vitamin B12 (<100 ng/L). Baseline demographics, ocular and systemic co-morbidities, presentations and findings were extracted. All analyses were carried out using SPSS.

Fifteen patients presented with severe vitamin B12 deficiency between January 2018 and January 2021. Age at presentation was 49.6 ± 24.9 years (range 18–98) and 53.3% (8/15) of patients were female. Patients presented with visual field defects (5/15, 33.3%), blurred or swollen optic discs (4/15, 26.7%), diplopia (2/15, 13.3%) and ophthalmoplegia (2/15, 13.3%). There was no significant difference in visual acuity between the affected and unaffected eyes (0 logMAR, −0.08–1). B12 level was severely deficient at 84.1 ± 16.6 ng/L, while haemoglobin (Hb) was normal at 135.8 ± 34.3 g/L and mean corpuscular volume (MCV) was normal at 93.2 ± 4.9 fL. MCV was increased slightly in only one patient (6.67%) and none of the patients had a Hb < 120 g/L. None of the patients tested positive for intrinsic factor or GPC antibodies.

Current NICE guidance appears to be obsolete and should be used with caution. Vitamin B12 deficiency manifests as a wide range of neurological deficits and symptoms before any effect is seen on haematological markers. Patients with neurological symptoms or signs such as new pupil abnormalities, eye pain, cranial nerve palsies, nystagmus, visual field defects, tinnitus, paraesthesia or neuralgia should be screened for B12 deficiency.

Author contributions PM and JP planned the study design, completed the data collection, analysis and interpretation. PM, JV and JP co-authored the article and approved the final version of the paper.

Compliance with ethical standards

Conflict of interest The authors declare no competing interests.

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