

Acute neuropathic proximal pain in a diabetic patient with Vitamin B12 deficiency: a case report

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INTRODUCTION: The lack of Vitamin B12 is implicated in different neurological diseases, particularly peripheral neuropathy. We report a case of diabetic polyneuropathy associated to severe proximal lower limbs pain and borderline levels of B12.

MATERIALS AND METHODS:

A 51 years old man with a recent diagnosis of diabetes, developed abruptly, six months later, severe and deep pain in thighs, hips and buttocks. The intensity of the pain limited his daily life activities. His past medical history was unremarkable. Since he was diagnosed with diabetes, he had been taking metformin 2000mg daily for glycaemic control. The pharmacological therapy was associated to diet and regular aerobic exercise, which led to a remarkable weight loss.

Neurological examination showed normal gait and a negative Romberg test. Strength, tone and coordination were normal in upper and lower limbs. He presented hypoesthesia with a stocking-and-glove distribution in the distal extremities, distal hypopallesthesia and reduced deep tendon reflexes especially in lower limbs. A EMG showed decreased amplitude of SNAP and CMAP in median nerve, ulnar nerve, posterior tibial nerve and common peroneal nerve bilaterally, associated in a lesser extent to slow SCV and prolonged DML. Denervation was not found in recorded muscles. Spine MNR was negative. Blood tests revealed a serum glucose of 93 mg/dl, a glycated hemoglobin of 5.6% and cyanocobalamin dosage of 343,1pg/ml. Folic acid, electrolytes, CPK, thyroid, liver and kidney function tests were normal.

RESULTS: Duloxetine 60mg/die and pregabalin at the dosage of 150mg daily were started for pain treatment with poor results. Further increase of dosage was not tolerated. The addition of intramuscular supplementation of vitamin B12 (2000 UI/ week for 4 weeks), was followed by dramatic reduction of pain and complete recover in three weeks.

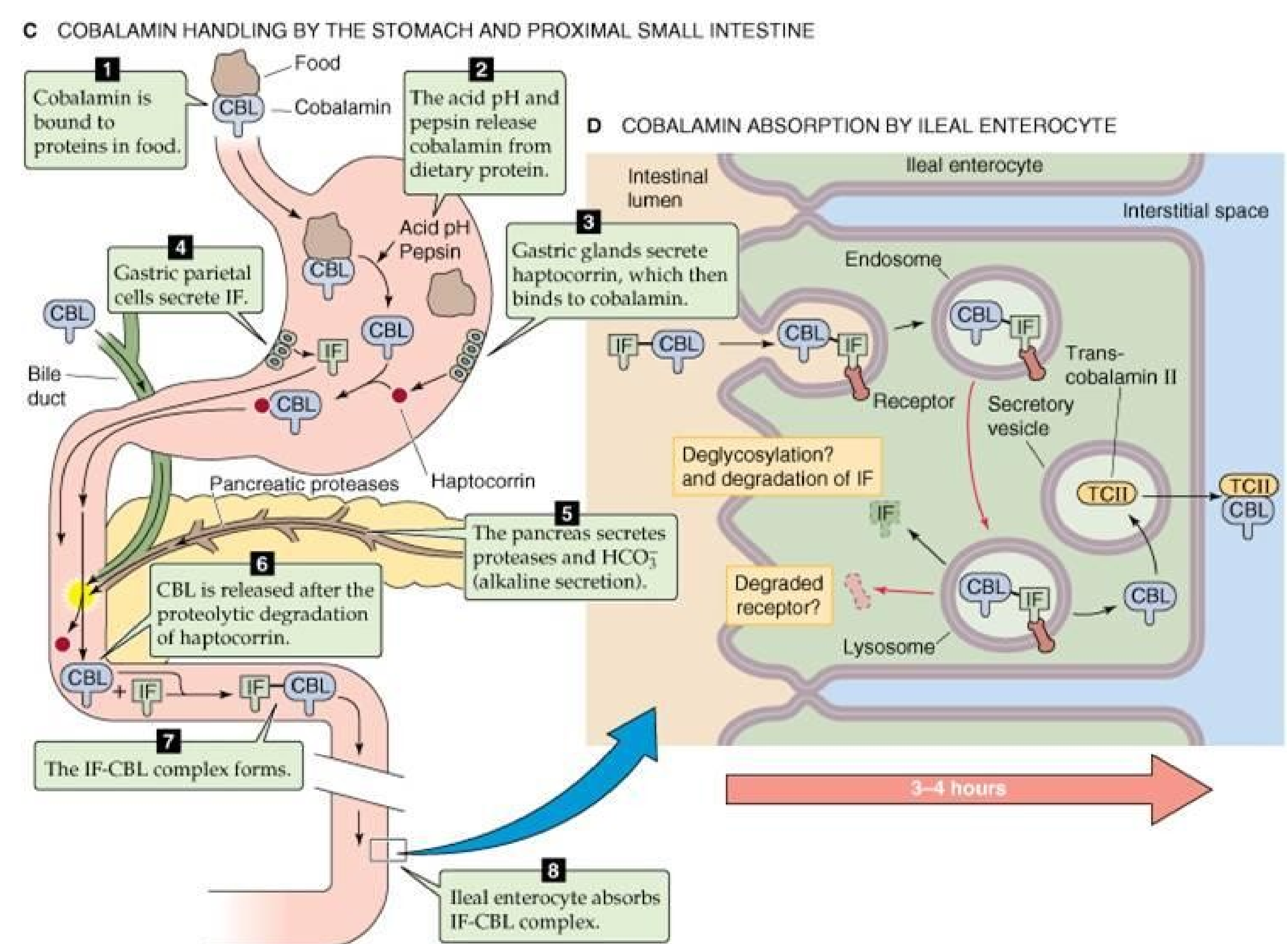


Fig 1 Cyanocobalamin absorption pathway.

DISCUSSION AND CONCLUSIONS: Diabetic polyneuropathy² is one of the most common cause of chronic pain, causing symptoms similar to vitamin B12 deficiency. In literature, there is a strong evidence that diabetics patients taking metformin³ are at risk for developing vitamin B12 deficiency, as metformin interferes with its absorption from food (Fig1).

We hypothesize that a combination of events, led to a sudden lack of B12, who represent an additional risk factor in diabetic patients for acute painful neuropathy. We suggest to test serum vitamin B12 during metformin therapy, in order to detect subclinical deficiency and to treat with supplementation those patients who suddenly develop neuropathic pain even if an atypical anatomic distribution is present and B12 level is a borderline value.

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