

Guideline for Primary Care Vitamin Supplementation in Liver Disease

1. BACKGROUND

Both acute and chronic liver diseases are associated with vitamin deficiencies, with patients drinking alcohol in excess being particularly vulnerable. The aim of vitamin supplementation is prevention of further complications as well as improving prognosis for patients with chronic liver disease.

This guideline applies to patients with:

- cirrhosis of any severity
- advanced liver fibrosis
- alcoholism
- patients who are symptomatic of vitamin deficiency but may not necessarily be cirrhotic
- patients who hepatologists have advised supplementation for on case by case basis noted in secondary care clinic/discharge letters.

2. INDICATIONS

Vitamin B group

Deficiency in **thiamine (B₁)** is seen in both alcoholic and non-alcoholic liver disease and should be replaced with thiamine to prevent development of Wernicke-Korsakoff syndrome (WKS)[1]. Although patients may be asymptomatic, WKS may be subclinical and therefore important to continue **long term/permanent supplementation in those end-stage chronic liver disease and alcoholism**[2].

Vitamin B₁₂ and **folic acid** are also part of this group – these can be **monitored and replaced as needed** as per HERPC guidelines

Vitamin B compound strong contains riboflavin (B₂), nicotinamide (B₃), pyridoxine (B₆) and a small amount of thiamine. Deficiency leads to complications such as peripheral neuropathy, pellagra, encephalopathy and dermatological manifestations. These are rarely tested and as such difficult to assess other than clinically. **It should be prescribed to patients who are symptomatic, as well as chronic liver disease patients with proven deficiencies in other vitamins** as they are rapidly depleted due to reduced hepatic storage[2].

- Vitamin B compound strong tablets may be prescribed on a short-term basis (10 days) for patients at risk of re-feeding syndrome. This also applies to patients who are not harmful or dependent drinkers.
- In rare cases where there might be a justifiable reason for prescribing vitamin B complex e.g. medically diagnosed deficiency or chronic malabsorption, vitamin B compound strong and not vitamin B compound should be prescribed due to cost/effectiveness.

Vitamin D group

Patients with chronic liver disease should have their **plasma vitamin D [25(OH)D] levels** assessed and those with **vitamin D levels <60nmol/L** should have it replaced with **oral vitamin D targeting above 95nmol/L**[2]. This is higher and differs from the standard vitamin D supplementation guidelines due to deficiency in patients with cirrhosis being inversely correlated with both Child Pugh score and MELD score, as well as shown to increase overall mortality and infections.

Vitamin A and minerals

Deficiency such as iron, magnesium and calcium should be **acknowledged and corrected** as with non-liver disease patients.

Although patients with chronic liver disease are often also deficient in vitamin A, zinc and selenium, the significance of this is still debated and evidence of replacement is not strong. Individual hepatologists may still request for supplementation but we **would not recommend routine replacement**.

References:

[1] Nice.org.uk [Internet]. Alcohol-use disorders: diagnosis and management of physical complications ; June 2010 [updated April 2017 ; cited Oct 2019]. Available from:

<https://www.nice.org.uk/guidance/cg100/chapter/Recommendations#wernickes-encephalopathy>

[2] EASL Clinical Practice Guidelines on nutrition in chronic liver disease. J Hepatol (2018), <https://doi.org/10.1016/j.jhep.2018.06.02>

APPROVAL PROCESS

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