Developing a Guideline for the Use of Branched-Chain Amino Acids to Treat Hepatic Encephalopathy at UW Medical Center

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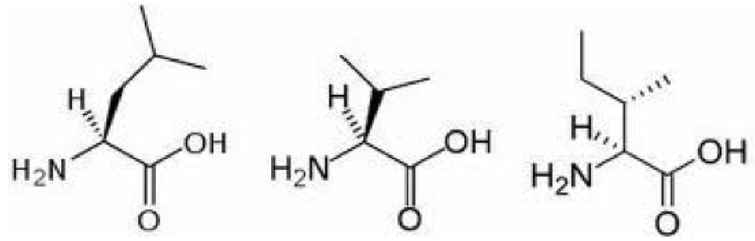
Background

Hepatic encephalopathy (HE)

- Altered mental status due to the buildup of toxic metabolites in the brain
- Characterized by confusion, forgetfulness and lack of coordination
- Affects up to 70% of patients with cirrhosis

Branched chain amino acids (BCAAs)

- Includes Leu, Ile, Val
- Critical for protein metabolism



Current HE Care:

- Standard treatment is a lactulose + rifaximin regimen
- BCAAs are prescribed by some but not all providers, not routinely used

Objective:

Create an evidence-based guideline to standardize use of BCAAs to treat HE at UWMC

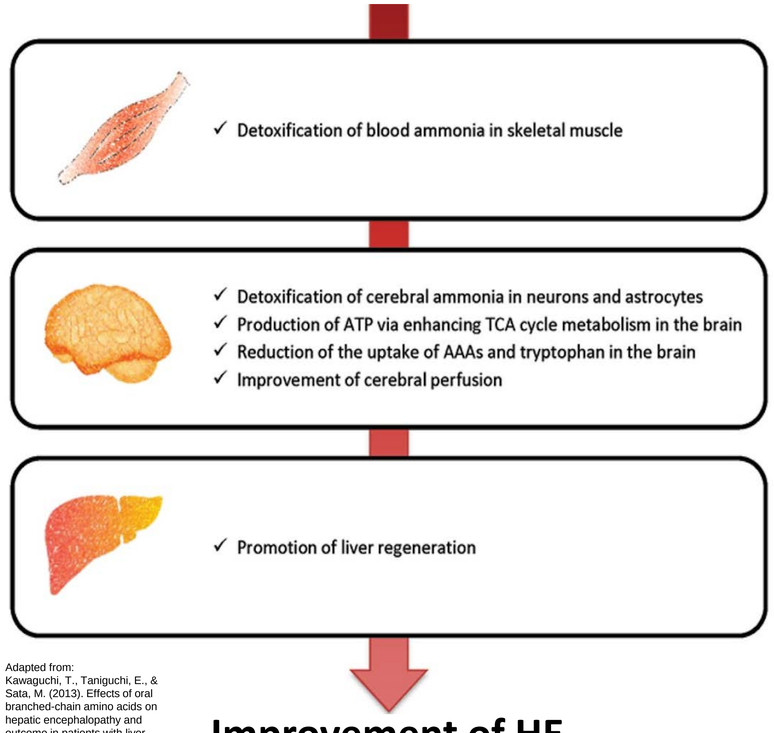
Methods:

Conducted a literature review using PubMed database to determine:

1. Whether BCAAs are an effective treatment for HE
2. How BCAAs should be administered for best results

Reviewed meta-analyses, existing guidelines, individual studies

Effects of BCAAs



Adapted from: Kawaguchi, T., Taniguchi, E., & Sata, M. (2013). Effects of oral branched-chain amino acids on hepatic encephalopathy and outcome in patients with liver cirrhosis. *Nutrition in Clinical Practice*, 28(5), 580-588.

Findings:

- Oral BCAAs are effective HE treatment
- IV BCAAs not proven effective
- Not yet proven to work better than standard therapy
- Dosing: 0.25g/kg is standard

Final Guideline

1. Oral branched chain amino acids should be considered as an alternative or add-on option to treat hepatic encephalopathy

   - Recommended dosage: 0.25g/kg
   - Also consider enteral administration as add-on/alternative

2. Symptom severity and gastrointestinal side effects should be monitored to determine effectiveness of this therapy

References

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