

Journal Club:

{ Rifaximin versus Nonabsorbable Disaccharides for the Treatment of Hepatic Encephalopathy: A Meta Analysis }

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Background

Hepatic encephalopathy (HE)

- It is a complex and reversible neuropsychiatric syndrome that results from acute or chronic liver diseases, such as hepatic cirrhosis, alcoholic liver disease.
- Characterized by disturbance in personality, cognitive, intellectual, and neuromuscular function.
- Ranges from minimal disturbances to coma.

Cont'...

❖ Minimal hepatic encephalopathy (MHE):

- may has no clinical manifestations could be detected only by neuropsychological methods

❖ Overt HE :

- high mortality and poor prognosis.
- Diagnosis made after the exclusion of other brain disorders and based on two types of symptoms. Impaired mental status, and impaired neuromotor function.

Cont'...

Clinical assessment of HE:

- West Haven (Conn) score
- Asterixis grading
- Clinical labs
 - Blood ammonia
- Neurophysiological
 - PSE-Syndrome Test
 - EEG

Cont'...

Treatment Options for HE:

- Up to now, nonabsorbable disaccharides such as lactulose and lactitol have been the first-line drug for the treatment of HE.
- Antibiotics were shown to be effective in the treatment of both acute and chronic encephalopathy.
- Due to serious side effects such as ototoxicity and nephrotoxicity, most antibiotics exception of rifaximin are not suitable for longterm use for the treatment of HE

Lactulose (FDA approved 1976)

Neomycin (FDA approved 1970)

Metronidazole and Vancomycin (not approved)

Rifaximin (FDA review 2010)

Cont'...

Rifaximin

- Rifaximin is a minimally absorbed oral gastrointestinal selective antibiotic with a broad spectrum against gram-positive and gram-negative aerobic and anaerobic enteric bacteria, with very few systemic side effects and has a low risk of inducing bacterial resistance.

Labeld indications:

- Treatment of travelers' diarrhea caused by noninvasive strains of E.coli
- Reduction of the risk of overt HE recurrence

Unlabeled indications:

- Treatment of HE
- Alternative treatment for CDAD

Introduction:

- Chronic liver disease and cirrhosis affect hundreds of millions of patients all over the world.
- One of these recurrent and difficult to treat complications is hepatic encephalopathy
- Overt hepatic encephalopathy affects from 30 to 45% of patients with cirrhosis, and a higher percentage may be affected by minimal hepatic encephalopathy (MHE).
- HE that results in diminished quality of life and survival is serious challenges on the healthcare system.

Cont'...

- Nonabsorbable disaccharides (lactulose and lactitol) were considered as standard treatment for hepatic encephalopathy.
- Some severe adverse events, including diarrhea, abdominal pain, vomiting, and flatulence, may lead to the cessation of therapy with disaccharides.
- Rifaximin is a minimally absorbed antimicrobial Agent seems the ideal drug that appears to be effective in the treatment of HE without carrying the risk of severe side effects caused by others.
- In 2010, FDA approved rifaximin For the maintenance of remission of hepatic encephalopathy (HE).

Previous studies:

- Some studies showed that rifaximin is superior to lactulose and antimicrobials in patients with mild-to-moderate severe HE.
- but a larger meta-analysis including twelve studies comparing rifaximin to conventional oral therapy showed no significant difference between the two interventions.

Objective of this meta analysis :

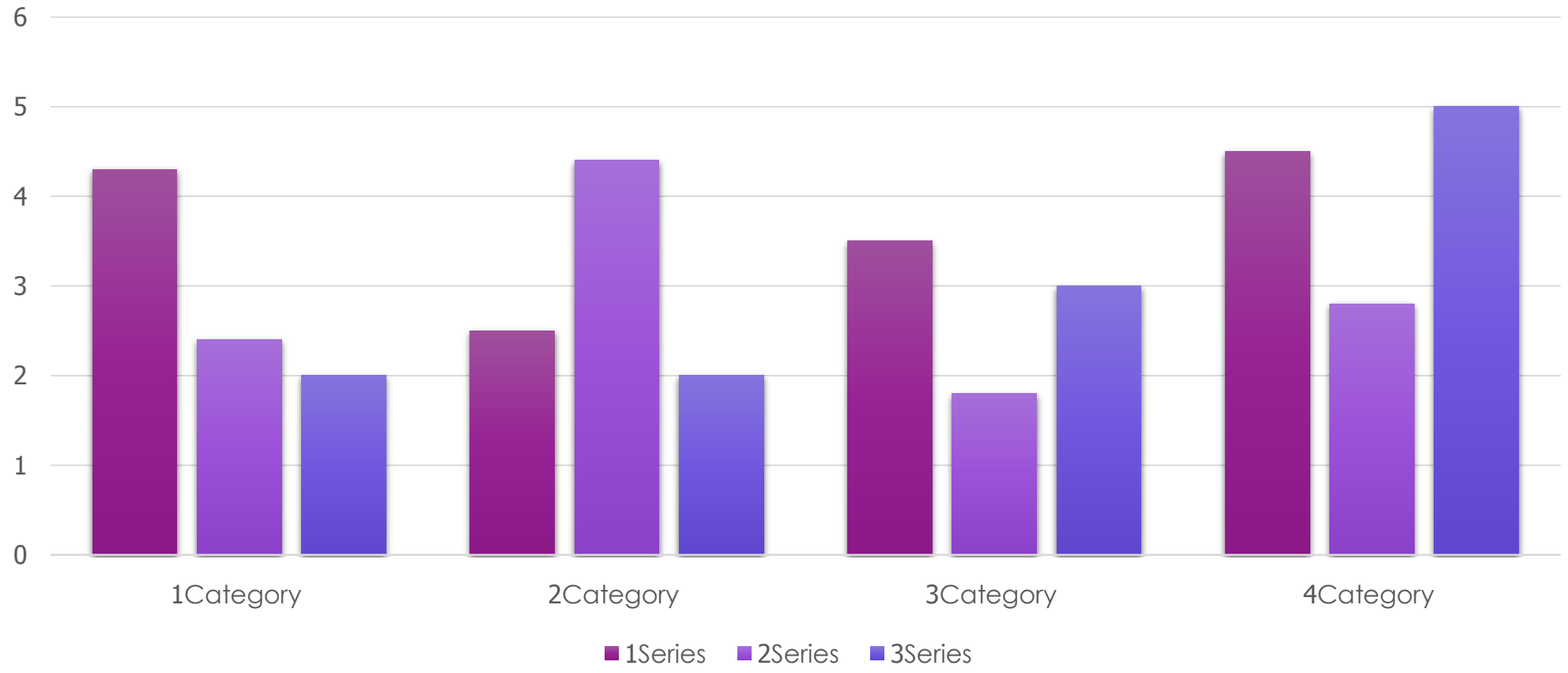
- This meta-analysis was conducted to evaluate all RCTs comparing rifaximin to nonabsorbable disaccharides for the treatment of patients with HE.
- Furthermore, the reduction of blood ammonia levels, and psychometric outcomes (mental status, grade of asterixis, electroencephalogram, portosystemic encephalopathy sum) were assessed.

Study question (PICO):



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Title and Content Layout with Chart



Two Content Layout with Table

	Group A	Group B
Class 1	82	85
Class 2	76	88
Class 3	84	90

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Two Content Layout with SmartArt

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Group A

- Task 1
- Task 2

Group B

- Task 1
- Task 2

Group C

- Task 1