

Alcoholic Hepatitis Algorithm

DIAGNOSIS

History: Recent heavy alcohol use

Common symptoms: malaise, RUQ pain, anorexia

Exam: Fever, jaundice, hepatomegaly, +/- ascites, spider nevi

Lab: AST>ALT (both <10X ULN), ↑Bili, ↑INR, ↑alk phos, ↑WBCs, ↓platelets^A

Evaluate & Manage Complications

Ascites: paracentesis for spontaneous bacterial peritonitis^B

Encephalopathy: asterixis present, Connect-the-Numbers test^C

Upper gastrointestinal bleed: EGD for varices, other causes

Renal failure: hepatorenal versus renal origin

Alcohol withdrawal: CIWA score^D

Treatment

Calculate modified Maddrey Discriminant Function (DF)^E

$[4.6 \times (\text{Protime} - \text{Control Protime})] + \text{Total bilirubin}$

DF < 32

Supportive Care

1. Replace fluid, electrolytes, vitamins
2. Counseling for alcohol abstinence
3. Manage Complications

Systemic Steroids

Dose: Once daily x 4 wks^E
Methylprednisolone 32mg
--or--
Prednisolone 40mg

→ Taper and discontinue over 2 wks. (e.g., halve dose each week).

Side Effects: facial swelling, emotional changes, diabetes, etc.

Advantages: more studies than pentoxifylline

Disadvantage: side effect profile

Non-response: if bilirubin no better after 7 days; consider discontinuation.

**Not validated in the following:

- Acute upper / lower gastrointestinal bleed
- Active bacterial infection
- Acute pancreatitis
- Renal failure (creatinine >2.0)

DF ≥ 32
Specific Medications
(1 of these drugs only)

Pentoxifylline

Dose: 400 mg. TID x 4 weeks

Side Effects: nausea, vomiting, headaches

Advantages: may prevent hepatorenal syndrome

**No benefit if combined with steroids

**No benefit if added in steroid non-responders

Please see page 2 for Footnotes "A-G"

Prognosis

Calculate MELD alcoholic hepatitis 90-day mortality

Go to: <http://www.mayoclinic.org/meld/mayomodel7.html>

Requires labs (drawn on same day): creatinine, INR, total bilirubin

Follow-Up

1. Inpatients who are discharged should be seen by a primary care provider within one week.^G
2. Inpatients with a complicated course can be referred to general internal medicine clinic for additional consultation.
3. Persons with alcoholic hepatitis who have a second underlying chronic liver disease, such as hepatitis B or C or autoimmune liver disease, should also get routine follow-up with hepatology clinic.
4. Persons with severe alcoholic hepatitis (DF≥32) should get repeat laboratory testing, including comprehensive metabolic panel (CMP), complete blood count (CBC) and prothrombin time/INR within a week of discharge and then every 2-4 weeks thereafter depending on clinical progress.

Footnotes for Alcoholic Hepatitis Algorithm

^AAST and ALT rarely > 400; if so, consider alternative diagnosis

INR = International Normalized Ratio

WBCs = white blood count; often very high (> 40,000) for prolonged period

^BNew presentation of clinical ascites requires diagnostic paracentesis for spontaneous bacterial peritonitis (SBP). Get cell count, albumin and total protein on ascitic fluid and inoculate blood culture tubes at bedside, which increases culture sensitivity by 60%. If cell count shows ≥ 250 polys, treat immediately for SBP before and regardless of culture results. Clinical course of culture negative SBP is same as that of culture positive. Treat with 5-day course of 3rd generation cephalosporin, preferably cefotaxime.

^CConnect the Numbers or Numbers Connection Test can be downloaded using any common Internet search engine such as Google. Serum NH₃ level is not always reliable and is not recommended for following someone who is being treated for encephalopathy. Treatment is lactulose with dose titrated to improve mental status and avoid diarrhea. Rifaximin 550 mg. BID is effective alternative with few side effects but very expensive. There is little evidence that using both drugs at same time is better than either alone

^DCIWA = Clinical Institute Withdrawal Assessment (of alcohol)

^ESuggested control for prothrombin time is to use the mid-range of your laboratory normal values; e.g., the normal range at Alaska Native Medical Center is 11.7-14.3 seconds and therefore we use 13.0 for control.

^FPrednisolone often comes in liquid preparation and is not well tolerated. Prednisone is not widely used for alcoholic hepatitis since it has to be metabolized to prednisolone by the liver but is probably acceptable in a dose of 40 mg. daily. Methylprednisolone is a better alternative than prednisone.

^GHepatology service MD providers are available for telephone consultation for both Primary Care providers and Internal Medicine providers