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
Screen for infection: CXR, blood & urine cultures
Renal failure: hepatorenal versus renal origin
Alcohol withdrawal: CIWA score [D]
Alcohol Use Disorder: Refer patient to Behavioral Health for treatment

Treatment

Calculate modified Maddrey Discriminant Function (DF) [E]

[4.6x(Protime-Control Protime)] + Total bilirubin

DF < 32

Supportive Care

1. **Replace fluid, electrolytes, vitamins**
2. **Counseling for alcohol abstinence**
3. **Manage Complications**
4. **Enteral nutrition goal of >21 kcal.kg**

DF ≥ 32 or MELD > 20
Specific Medications (1 of these drugs only)

Systemic Steroids

Dose: Once daily x 4 wks [F]
Methylprednisolone 32mg
--or—
Prednisolone 40mg
→ Taper not necessary.

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

Contraindications to treatment:
Uncontrolled infections
Acute kidney injury w/ serum creatinine >2.5
Acute upper / lower gastrointestinal bleed
Acute pancreatitis, HBV, HCV, DILI, HCC, HIV, TB
Multiorgan failure or shock

Consider administering IV N-acetylcysteine[G]

7 days after steroids start

Calculate Lille score (see link below) .
If Lille < 0.45, continue prednisolone
If Lille **≥ 0.445, stop prednisolone**
https://www.mdcalc.com/lille-model-alcoholic-hepatitis

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. [H]
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.

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Footnotes for Alcoholic Hepatitis Algorithm

[A]AST 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

[B]New 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.

[C]Connect 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

[D]CIWA = Clinical Institute Withdrawal Assessment (of alcohol)

[E]Suggested 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.

[F]Prednisolone 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.

[G]N-Acetylcysteine (NAC) with corticosteroids may reduce some early complications (infection, hepatorenal syndrome) compared to steroids alone and improve 1-month mortality. This mortality benefit was not seen at 3 or 6 months. Use same dose, duration as for acetaminophen acute liver failure.

[H]Hepatology service MD providers are available for telephone consultation for both Primary Care providers and Internal Medicine providers

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