When are corticosteroids indicated in the treatment of alcoholic hepatitis?

A 37-year-old man with end-stage liver disease due to alcohol abuse presents with symptoms of malaise, abdominal pain, nausea, and fatigue. Vitals are significant for tachycardia and low-grade fever. No infectious source is found on initial workup; however, paracentesis is not technically possible due to low volume and unfavorable anatomy.

Labs are notable for elevated transaminases, leukocytosis, low albumin, and elevated total bilirubin and international normalized ratio (INR). You calculate Maddrey’s Discriminant Function (mDF) score to be 32 and consider initiating prednisolone for treatment of alcoholic hepatitis, but you are concerned the patient might have an underlying infection driving symptoms.

Will this patient benefit from corticosteroid treatment?

Review of the evidence

A 2008 Cochrane review of 15 RCTs involving 721 patients with alcoholic hepatitis of varying severity examined the efficacy of glucocorticoid treatment. No statistically significant difference was noted in mortality between those treated with glucocorticoids versus placebo (36% vs 43% mortality; risk ratio [RR] 0.83; 95% CI, 0.63–1.1). Methods of severity assessment and follow-up periods varied in these trials.

A subgroup analysis of patients with severe alcoholic hepatitis (defined by an mDF score of ≥32 or the presence of hepatic encephalopathy) did show significant improvement in mortality (6 trials, N=249; RR 0.37; 95% CI, 0.16–0.86). A 2010 meta-analysis of 5 RCTs evaluated short-term survival in 418 patients with severe alcoholic hepatitis treated with either glucocorticoids or placebo. Severe disease was defined as an mDF score of ≥32 or clinically evident hepatic encephalopathy. Compared with placebo, glucocorticoid treatment resulted in significantly higher 28-day survival (80% vs 66% survival; P<0.001). A 2007 retrospective trial examined an alternate severity scoring system, the Glasgow Alcoholic Hepatitis Score (GAHS), to determine if it could better predict patients who would benefit from treatment with glucocorticoids (prednisolone 40 mg daily for 4 weeks). The GAHS has a total score of 5 to 12, based on white blood cell counts, urea, INR, and bilirubin; a score of ≥9 is associated with a poor prognosis. This trial reviewed data from 225 patients at 5 UK hospital centers diagnosed with an mDF score of ≥32 and subdivided them into patients with a GAHS score of ≥9 or <9.

There was no survival benefit at 28 days with the addition of glucocorticoids when GAHS was <9 (OR 0.75; 95% CI, 0.24–2.4) compared with the untreated group. However, for patients with GAHS ≥9, there was a significant improvement in survival at 28 days in the treatment group compared with the untreated group (HR 3.3; 95% CI, 1.6–6.6).

A calculated GAHS is 7 in this patient, thus he is unlikely to gain a mortality benefit from treatment with corticosteroids despite having an mDF score of 32. Clinical suspicion for infection is confirmed when blood cultures grow Gram-negative rods, likely due to an abdominal source, which is a contraindication for steroid use. The patient improves with appropriate antibiotic therapy.

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REFERENCES

ERRATUM
In the May issue, the Clinical Inquiries article, “What is the best bowel preparation for screening colonoscopies?” (EBP. 2014;17[2]:2) inadvertently omitted a coauthor’s name and affiliation. The coauthor is Joan Nashelsky, MLS, University of Iowa, Iowa City, IA.

We sincerely regret the error and apologize for any confusion.