



ICU consultant: "Yeah, we never thought the story sounded much like cholecystitis. The pattern was much more suggestive of acute alcoholic hepatitis, so we've been sticking with supportive treatment."

Well-read ICU senior registrar (He' is into FOAMed and all that kooky young person stuff!):
"What's his Maddrey's discrimination factor?"

Question

What is the Maddrey Discrimination Factor and why is the SR asking? Or is he just making stuff up to sound impressive?

Answer

The Maddrey Discrimination Factor (mDF) is a scoring system that uses laboratory values (PT and serum bilirubin) to estimate the short term mortality risk for acute alcoholic hepatitis. A score of >32 is associated with a 30 - 40% mortality risk, while a score of <32 has a 28-day mortality of about 7%.

An mDF >32 in the setting of acute alcoholic hepatitis is also used as a prompt for clinicians to consider starting a course of corticosteroids to reduce the 28-day mortality. The evidence for this is a whole other discussion, but a metanalysis (with all of the attendant caveats for metanalysis) of 13 trials demonstrated 6 trials that supported a short term mortality benefit, 7 trials that showed no benefit and no trials showing excessive harm. Some guidelines suggest that the diagnosis of acute alcoholic hepatitis needs to be confirmed histologically, requiring a liver biopsy, prior to starting the steroid course; which has resource access issues.

Some specialists use the Glasgow Acute Hepatitis Score (GAHS) to identify the cohort of patients with an mDF >32 but who are still likely to improve without a course of steroids.

Here are the AUD scores for the commonly used acute alcoholic hepatitis mortality scoring systems (from *The Utility of Scoring Systems in Predicting Early and Late Mortality in Alcoholic Hepatitis: Whose Score Is It Anyway?* Naaventhana Palaniyappan, Venkataraman Subramanian, Vidyasagar Ramappa, Stephen D. Ryder, Philip Kaye, and Guruprasad P. Aithal. *International Journal of Hepatology* Volume 2012):

Table 4: The area under the receiver operating characteristic (AUROC) for prognostic scores for short- and long-term mortality

Prognostic score	30-day mortality		90-day mortality		6-month mortality		1-year mortality
	AUROC	95% CI	AUROC	95% CI	AUROC	95% CI	AUROC
CP	0.53	0.25–0.8	0.47	0.21–0.73	0.55	0.35–0.76	0.5
mDF	0.79	0.64–0.94	0.81	0.67–0.95	0.72	0.54–0.91	0.63
GAHS	0.78	0.54–1	0.81	0.61–1	0.73	0.54–0.92	0.64
ABIC score	0.74	0.46–1	0.79	0.55–1	0.67	0.44–0.91	0.66
MELD	0.84	0.71–0.96	0.85	0.74–0.97	0.74	0.56–0.92	0.64

References

- The Utility of Scoring Systems in Predicting Early and Late Mortality in Alcoholic Hepatitis: Whose Score Is It Anyway? Naaventhana Palaniyappan, Venkataraman Subramanian, Vidyasagar Ramappa, Stephen D. Ryder, Philip Kaye, and Guruprasad P. Aithal. *International Journal of Hepatology* Volume 2012 (2012), Article ID 624675 - [Link to article](#)
- Alcoholic liver disease: proposed recommendations for the American College of Gastroenterology. McCullough AJ, O'Connor JF. *Am J Gastroenterol.* 1998 Nov;93(11):2022-36. - [Link to PubMed abstract](#)
- MDCalc for the Maddrey Discrimination Factor for Acute Alcoholic Hepatitis: <http://www.mdcalc.com/maddreys-discriminant-function-for-alcoholic-hepatitis/>

{jcomments on}