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A novel, simple scoring system accurately predicts death from alcoholic hepatitis

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TITLE Analysis of factors predictive of mortality in alcoholic hepatitis and derivation and validation of the Glasgow alcoholic hepatitis score

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SUMMARY

Until now, the best available method of quantifying an individual patient's chance of surviving AH has been the mDF. This is difficult to calculate (4·6(PT patient – PT control) + serum bilirubin (μmol/l) / 17·1) and, although it accurately predicts survival, it is poor at predicting death, i.e. it is sensitive, but not specific.[1] An alternative to this is the MELD score, which performs similarly in clinical studies, but is even more difficult to calculate (3·8x$\log_e$(bilirubin (mg/dl)) + 1·2x$\log_e$(INR) + 9·6x$\log_e$(creatinine(mg/dl))).[2]

A Glasgow group have retrospectively looked at 241 patients admitted to hospital with AH and have identified factors associated with poor survival by stepwise logistic regression. They then developed a scoring system (GAHS) using the patient's age, serum bilirubin, blood urea, WCC and PT ratio, giving each parameter a score from 1 to 3.

The total score predicted death at 28 and 84 days after admission to hospital with a high degree of specificity (specificity of GAHS ≥ 9: 89 and 90% respectively). The scoring system was then validated against another cohort of 195 patients from units around the UK. GAHS performed significantly better than the mDF in predicting death in this second cohort (specificity of GAHS ≥ 9: 61 and 66% on days 28 and 84, compared with 27 and 31% for mDF ≥ 32 respectively). Combining the two groups, the 28 day survival of patients with an admission GAHS of <9 was 87% and of ≥ 9 was 46%. Taking the extremes of the scores observed, 93% of patients with a GAHS of 5 survived 28 days, compared to 17% with a score of 12. When GAHS was reassessed a week after admission, a score of ≥ 9 predicted death with even greater accuracy.

OPINION

Severe AH has a poor prognosis, and patients are often managed poorly in acute medical wards. This is partly due to the difficulty in distinguishing between mild and severe disease. The risk of death in an individual patient is difficult to predict and is often underestimated, especially by non-gastroenterologists. To select patients in whom specific therapies such as corticosteroids[3] or pentoxyfylline[4] might be indicated it is vital to be able to predict prognosis accurately.

Although the mDF and MELD score predict survival in AH accurately, they are poor at predicting death and are difficult to calculate at the bedside. The mDF includes the absolute value of the PT, which varies between different assays, and the MELD includes serum creatinine, assays of which can be affected by hyperbilirubinaemia. This partly explains why in clinical practice they can be inaccurate[5] and so are rarely used.

GAHS offers a simple and accurate method of assessing the risk of death using data that is measured on every patient at admission. Using this score to risk-stratify patients presenting with AH, it should now be possible to write logical and evidence-based assessment and treatment protocols. This might finally lead to a reduction in mortality from this condition. In addition, only rarely do clinical trials in AH provide definite

conclusions. This is often due to the heterogeneity of the patients included. After more than 25 years of clinical studies, we are still arguing about the value of corticosteroids and who they should be given to. [3] GAHS appears to be an ideal tool to risk-stratify patients on entry to clinical trials. It has the potential to kick-start some badly needed, good quality clinical research in this quagmire of a field.

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