Decreased Serum Aspartate Aminotransferase Activity in Patients Receiving Corticosteroids and/or Azathioprine

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Dear Sir,

Measurements of serum aspartate aminotransferase (AST, glutamic oxaloacetic transaminase) are commonly used to detect hepatic dysfunction and may occasionally be the sole indicator of hepatitis [1,2]. Low levels of AST in serum are infrequent [3] and when present may obscure or delay the diagnosis of hepatitis [4]. I reviewed our laboratory records over the past 3 months and found 9 patients with low serum AST activity (normal 19–38 U/l). A review of their hospital charts revealed that 7 of these 9 patients were receiving either corticosteroids alone or in combination with azathioprine. Details of these 7 patients are summarized in table I. The other 2 patients were receiving a combination of antibiotics (gentamicin, cephalothin, ticarcillin, cloxacillin).

AST analysis was performed using the IFCC recommended method [5]. The mechanism by which corticoste-

roids reduce AST activity is not known. Recovery studies done on serum samples of the above patients excluded the presence of inhibitors. In vitro experiments were also done and excluded interference in the analytical method by corticosteroids and azathioprine.

Because corticosteroids are used in the management of a wide variety of renal and other disorders, it is important to recognize the above phenomenon since some of these patients could theoretically have a diagnosis of hepatic dysfunction delayed or obscured by the presence of low AST activity.

References

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Table I. Details of the 7 patients with low AST activity in serum, receiving either corticosteroids and/or azathioprine

1 In parentheses are the number of days after start of medication when AST activity was measured.

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