

LETTER TO THE EDITOR

Total bilirubin is a good discriminator between benign and malignant biliary strictures

Sir,

We read with interest the article by Garcea *et al.*¹ about differentiating between benign and malignant biliary strictures in patients with obstructive jaundice. From 2006 to 2010, we prospectively evaluated serum biochemistry and carbohydrate antigen 19-9 (CA19-9) values for the same purpose in 72 patients with suspected malignancy of the common bile duct. Serum biochemistry, liver ultrasonography, computed tomography and endoscopic retrograde cholangiopancreatography were undertaken at study entry.

A total of 53 (73.6%) strictures were determined by brush cytology or surgical biopsy to be malignant and 19 (26.4%) to be benign. Significant differences between patients with, respectively, malignant and benign strictures were apparent in levels of: total bilirubin (12.6 mg/dl vs. 4.5 mg/dl; $P < 0.001$); alanine aminotransferase (227 IU/l vs. 101 IU/l; $P = 0.002$); aspartate aminotransferase (188 IU/l vs. 101 IU/l; $P < 0.001$); alkaline phosphatase (425 IU/l vs. 257 IU/l; $P = 0.024$), and CA19-9 (1427 IU/ml vs. 655 IU/ml; $P = 0.002$). Only bilirubin was found to be independently associated with malignancy on multivariate logistic regression analysis (odds ratio = 0.778, 95% confidence interval 0.663–0.993; $P = 0.002$). Similarly, in receiver operating characteristic (ROC) curve analyses, bilirubin offered the best diagnostic accuracy (c-statistic: 0.822). The optimal cut-off was 5.15 mg/dl (87.5 $\mu\text{mol/l}$), offering sensitivity of 82.4% and specificity 77.8%. Using a bilirubin cut-off value of 5.15 mg/dl, four of five patients were categorized correctly.

We and others^{2–5} have confirmed the findings of Garcea and colleagues¹ that serum bilirubin is useful in predicting malignant strictures, although cut-off levels vary (75–145 $\mu\text{mol/l}$) as a result of differences in the clinical characteristics of the patients included in each study.

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