Practical Algorithm for Preoperative Evaluation of Patients With Liver Disease

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Background: Chronic liver disease is prevalent, but is frequently overlooked as a perioperative risk factor. Treatment modalities have improved, leading to increasing numbers of patients with chronic liver disease and cirrhosis presenting for elective surgeries. It is known that patients with liver disease who require surgery are at greater risk[1] for perioperative complications compared to those with healthy livers because of the stress of surgery and effects of anesthesia.

Purpose: Identification of surgical risk is imperative for therapeutic decision-making and informed treatment choices. Patients are often screened preoperatively by midlevel practitioners who need guidance for appropriate evaluation.

Description: We have introduced a simple algorithm for evaluation and management of patients with known or suspected liver disease to guide midlevel practitioners, nurses, and physicians in the preoperative clinic. The algorithm includes history, physical, and laboratory findings,[2] as well as the use of the validated Child-Pugh score.[3] More detailed explanatory information is appended by footnotes.

Results: Early use of the tool has led to increased recognition, improved history and physical examination skills, and appropriate laboratory test interpretation. As severe liver cirrhosis is rare, we are not able to demonstrate globally improved outcomes, but we are able to show institutional improvements in perioperative management.

Conclusions: A well-designed protocol, aided by clinical pathways, improves screening efficiency and outcomes. We present our algorithm for the preoperative evaluation of the patient with liver disease.

1. *Ziser A, Plevak DJ, Wiesner RH, Rakela J, Offord KP, Brown DL. Morbidity and mortality in cirrhotic patients undergoing anesthesia and surgery. Anesthesiology 1999; 90:42–53.*

2. *Hanje AJ, Patel T. Preoperative evaluation of patients with liver disease. Nat Clin Pract Gastroenterol Hepatol 2007; 4:266–276.*

3. *Pugh RN, Murray-Lyon IM, Dawson JL, Pietroni MC, Williams R. Transection of the oesophagus for bleeding oesophageal varices. Br J Surg 1973; 60:646–649.*