

Predictors of outcome in patients with traumatic liver injury in Sohag Governorates

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Abstract

INTRODUCTION: Severe bleeding from liver injury is one of the major causes of mortality in patients with abdominal trauma. The study was undertaken to assess factors that influence outcome following liver trauma.

PATIENTS AND METHODS: This is a prospective study of patients with liver injury managed in one surgical ward at Sohag university Hospital over a one year period (from 1998 to 2004). Data collected included demographics, intra-operative findings, operative management and outcome.

RESULTS: A total of 65 patients with abdominal trauma associated with liver injuries, of whom only 12 were female. Age of patients ranged from 1.5 years to 45 years with a mean of 16.6(\pm 12.54) years at time of presentation. Injuries were due to firearms (13), stabs (16) and blunt trauma (36). At time of presentation in emergency department, 19 patients (38%) were hemodynamically stable while 31 patients (62%) were unstable. A total of 80% patients had blunt injuries, while 20% had penetrating injuries. Diagnosis of liver injury based on imaging showed isolated liver injury in 30 (60%) patients while 20 (40%) cases had multiple organ injuries. Liver injury grade was assessed using the AAST scale (figure 24), 24 (48%) patients had grade 1 injuries, 8 (16%) patients with grade 2, 9 (18%) patients were grade 3, 8 (16%) patients with grade 4, and only 1 (2%) patient had grade 5 injury. Conservative management was successful in 19 (38%) cases while 31 (62%) patients needed operative intervention. The main indication of surgery was hemodynamic instability in addition to penetrating injuries or peritonitis. As regard hemodynamic instability from all patients included in the study 31 cases (62%) were unstable only 25 cases were operated, 6 cases were stabilized later & managed conservatively. As regard penetrating injury from all patients included in the study 10 cases (20%), 7 (22%) cases operated were unstable, the other 3 cases were stable & managed conservatively, and 3 (10%) patients with peritonitis operated due to hollow viscus injuries. Laparotomy was performed in 31 patients and revealed isolated liver injury in 13 patients and multiple organ injuries in 18 cases. Associated injuries included splenic and/or diaphragmatic in 8 cases, duodenal in 2 cases, colonic in 1 patient, mesenteric injuries in 3 cases, retroperitoneal hematoma in 3 patients, and gall bladder in 1 patient only. Three patients re-operated with liver resection, two of them developed persistent bile leakage post-operative, the 1st had right hepatectomy, the 2nd had right posterior segmentectomy, the third case was re-operated for liver abscess by non-anatomical liver resection after initial repair of liver tears in the right lobe of liver. 10 cases associated with complications in form of 3 cases biliary leakage, one case fecal peritonitis from associated colonic injury, one case liver abscess, one case pancreatic fistula, 3 cases with wound infection with zero mortality rate. Hospital stay ranged from 3 to 25 days, average stay was 10 days.

CONCLUSIONS: Injury mechanism, hemodynamic status on admission, grade of injury and associated injury significantly affect outcome of management of patients with liver trauma.