**Dilemma of traumatic liver injury management in Upper Egypt; Predictors of outcome**

**(3 years’ experience in tertiary referral Center)**

By

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**Abstract**

**INTRODUCTION:** Incidence of abdominal injuries and especially liver trauma is high in Upper Egypt due to higher incidence of firearms and Motor vehicle accidents. 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 at Sohag university Hospital over a three years period (from 2014 to 2017). Data collected included demographics, intra-operative findings, operative management and outcome.

**RESULTS:** Of a total of 85 patients with abdominal trauma associated with liver injuries, of them only 35 were female. Age of patients ranged from 1.5 years to 45 years with a mean of 16.6(±12.54) years at time of presentation. Injuries were due to firearms (18), stabs (21) and blunt trauma (46) (Motor vehicle accident, animal kick, or falling from height). At time of presentation in emergency department, 39 patients (45.9%) were hemodynamically stable while 46 patients (54.1%) were unstable. A total of 46(54.1%) patients had blunt injuries, while 39(45.9%) had penetrating injuries. Diagnosis of liver injury based on imaging showed isolated liver injury in 55 (64.7%) patients while 30 (35.2%) cases had multiple organ injuries. Liver injury grade was assessed using the AAST scale, 44 (51.7%) patients had grade I injuries, 15 (17.6%) patients with grade II, 12 (14.1%) patients were grade III, 11(12.9%) patients with grade IV, and only 3 (3.5%) patient had grade V injury. Conservative management was successful in 32 (37.6%) cases while 53 (62.4%) patients needed operative intervention, in form of packing, cautery, use of hemostatic agents, repair with 8-figure sutures or non-anatomical resection of the affected segments. The main indication of surgery was hemodynamic instability in addition to penetrating injuries or peritonitis. Laparotomy was performed in 53 patients and revealed isolated liver injury in 33 patients and multiple organ injuries in 20 cases. Associated injuries included splenic and/or diaphragmatic in 7 cases, duodenal in 2 cases, colonic in 2 patient, mesenteric injuries in 3 cases, retroperitoneal hematoma in 5 patients, and gall bladder injury in 1 patient only.

Complications occurred in 10 cases in form of 3 cases biliary leakage, one case fecal peritonitis from associated colonic injury, one case liver abscess, one case pancreatic fistula and 4 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.