Bleeding from the Liver Capsule – When to Perform Surgery

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To the Editor: Bleeding from the liver capsule or located at the center of liver triggered by accidental trauma or iatrogenic trauma is always challenging surgeons' decision-making in clinical practice. According to our past 20-year experiences, this type of liver is becoming an occult killer because of its uncertain time of abrupt rupture, which severely threatens the patients' lives. Based on our study, both excessive conventional conservative therapy and excessive earlier surgical intervention have adverse effect on the mortality rate, especially among the patients in intensive care unit. Hence, optimized treatment strategy and proper time for surgery are of crucial importance.

Herein, the authors propose the 3-E steps to create a reasonable judgment system. First, Evaluation: Referring to the guideline and classification of liver trauma,[1] it is necessary to identify the type of liver trauma and judge its severity. The primary evaluation should be built based on enhanced abdominal computed tomography (CT) imaging examination. The direct imaging really reveals major vessels or their branches injury. Second, Examination: As it is well known, the occult liver trauma may result in asymptom or only minor symptom at its early stage. However, the steadily increasing bleeding under liver capsule may exceed the burden of hepatic capsule. In addition, some iatrogenic procedures such as tumor radiofrequency therapy linked to heating effect may bring a potential vessel injury and delayed abrupt rupture. Actually, it is very difficult to predict ahead. Therefore, active examinations for a short term (1–2 weeks) including hemoglobin, physical examination, re-evaluation of CT scan will help focus on their changes or consider further steps.[2] Finally, Efforts: Multidisciplinary team for any liver trauma will provide a fine protocol in detail to save one's life. Noninvasive or minor invasive techniques should be considered first, if any. For example,we prefer to perform mesh-wrapping and ligation of portal vein branch to settle the dilemma of central bleeding if direct repair of the injured vessel may lead to fatal consequence.[3]

What time for surgery remains controversial according to different experts' experience. In general, Child-Pugh score >7 or model of end liver disease score >11 for liver trauma combined with hepatic cirrhosis and transhepatic vessel embolism may be safer compared to surgery. Based on authors' recommendation, two-thirds emerged as follows may be a proper time for surgical intervention: (a) clinical presentation worsening; (b) twisted liver or ballooned liver based on evidence of CT imagining or ultrasound examination; (c) hemodynamically patient or declining hemoglobin.

In conclusion, a reasonable strategy for this occult trauma should be coincided with the concept of enhanced recovery after surgery.[4] Raising the awareness of the special type of liver trauma will benefit both surgeons and patients.

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Conflicts of interest

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