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Reviewer A:

Comments to the authors:

Very well written, clear manuscript nicely summarizing the current status of hepatic trauma management. I suggest the authors consider the following points:
We thank the Reviewer for their constructive comments.

-Pg 4, line 58: Authors state complication of hepatic necrosis can be affected by technique and choice of embolic; however, this is not elaborated later and could be of value. We have added the requested data to the Morbidity and Mortality section.

-Comment on role for CTA or multi-phasic imaging rather than just IV contrast?
We have added the requested information to the Trauma Evaluation and Diagnosis section.

-Minor attention to spelling/words, e.g. pg 6, line 117 “decision can ‘they’ be made” pg 8, line 155 “eleased”
Grammar error was appropriately corrected.

-Pg 8, line 164: Suggest possibly some additional discussion of embolic agents, e.g. glue, microspheres, and plugs in addition to coils and gelfoam if available data exist.
We have added the requested information to the Embolization Techniques section.

-The authors importantly discuss the need for distal and proximal embolization across a pseudoaneurysm, and this is primarily due to the extensive intraparenchymal arterial collaterals that are a source of back-bleeding. This also holds true for arterial laceration/injury, as the degree of embolization needs to generally be selective to the point that ongoing bleeding from collateral supply does not occur. This feature of collateral supply and need for embolization close to the site of injury can be a valuable component of this section If the authors can elaborate on it.
We thank the Reviewer for the helpful comment. We have included more information regarding this topic to the Embolization Techniques section.

-A brief discussion of traumatic arteriovenous fistulae, indications and technique for treatment, would also be relevant.
A thorough discussion for the treatment of traumatic AV fistula’s was added to the Embolization Techniques section.

-Finally, can the authors discuss the role of stent grafts for major vessel injury, eg proper/right hepatic artery, in lieu of embolization?
We have added the requested data to the Embolization Techniques section.

-Pg 9, line 185: The authors presumably mean out of 143 patients with arterial extravasation on CT? If so, it would help to state this specifically.
Yes, that is correct. The statement has been modified to now state A previous study found that out of 143 patients with blunt abdominal injuries and concern for vascular injury on contrast-enhanced abdominal CT, 24 of those patients showed no evidence of arterial extravasation or contrast blush on angiography. Approximately, 7 of the 24 patients in that study developed rebleeding.

-Pg 9, line 187: It would be helpful if the authors elaborate on where empiric embolization would be performed in this circumstance. Empiric embolization of the liver is ostensibly different, and more challenging conceptually, than empiric embolization of high-grade splenic injury where essentially the same procedure (proximal embolization) is performed.
We have clarified the prior comment. Currently, there are no sufficient data for empiric embolization of the liver.

-Figure 1: Is there a suitable post-embolization angio to show as well for comparison?

Unfortunately this image is not available.

-Figure 2: The post-embolization angiogram (C) shown is a bit confusing as it still shows filling of the pseudoaneurysm and the left hepatic artery.

Image C is not post-embolization but was rather provided to illustrate that the pseudoaneurysm was only well visualized with selective catheterization rather than from the celiac arterial run.

Reviewer B

Comments to the authors:

Specific Comments/suggested changes:

In the abstract there is redundancy in discussion of indications for TAE. Please reword the abstract to read:

Management of trauma-related liver injury has undergone a paradigm shift over the past four decades. Advances in critical care medicine, cross-sectional imaging, and transarterial embolization techniques have led to the improvement of patient outcomes and decreased mortality rates. Current societal guidelines recommend that nonoperative management such as transarterial embolization (TAE) should be the treatment of choice in hemodynamically stable patients, and that embolization should also be considered in patients with clinical evidence of ongoing bleeding, identification of an arterial source of

bleeding on imaging, or suspicion of arterial bleeding despite operative intervention. TAE has been shown to improve success rates of nonoperative management and is well tolerated by most patients with low complication rates. Hepatic necrosis is the most common and concerning reported complication but can be reduced with superselective approach and choice of embolic agent.

We thank the reviewer the comments and recommendations and have made the changes.

In the paragraph on evaluation and diagnosis please reword the last sentence to read:

If the patient is clinically stable, a Focused Assessment with Sonography for Trauma (FAST) exam or computed tomography (CT) scan should be performed to evaluate for injury. Signs of liver injury on FAST examination include subcapsular fluid, perihepatic fluid or fluid within the hepatorenal space. A negative FAST exam, however, does not completely exclude liver injury.

We thank the reviewer the comments and recommendations and have made the changes.

Figure 2:

Change figures B and C, that is existing figure C actually should be figure B and visa versa. Then, the caption should be changed to read:

Figure 2. TAE for non-penetrating trauma. A, Contrast enhanced CT done in an 8 month old victim of non-accidental trauma showed arterial extravasation/pseudoaneurysm formation in the left lobe of the liver(asterisk). B-Common hepatic angiogram failed to show the extravasation/pseudoaneurysm. C-Selective left haptic artery injection via cannulation of an accessory left hepatic artery arising from the left gastric artery showed the site of extravasation. This was treated with gelatin sponge slurry embolization to good angiographic effect (not shown). Care was withdrawn due to significant intracranial injuries and the patient unfortunately passed shortly thereafter.

We thank the reviewer the comments and recommendations and have made the changes.