### 鈍的肝損傷の治療 Management of blunt liver injury

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## Recommendations ~2012 EAST Guideline

#### Level 1

1. Patients who are hemodynamically unstable or who have diffuse peritonitis after blunt abdominal trauma should be taken urgently for laparotomy.

## Recommendations ~2012 EAST Guideline

#### Level 2

- 1. A routine laparotomy is not indicated in the hemodynamically stable patient without peritonitis presenting with an isolated blunt hepatic injury.
- 2. In the hemodynamically stable blunt abdominal trauma patient without peritonitis, an abdominal CT scan with intravenous contrast should be performed to identify and assess the severity of injury to the liver.
- 3. Angiography with embolization may be considered as a first-line intervention for a patient who is a transient responder to resuscitation as an adjunct to potential operative intervention.

- 4. The severity of hepatic injury (as suggested by CT grade or degree of hemoperitoneum), neurologic status, age of more than 55 years, and/or the presence of associated injuries are not absolute contraindications to a trial of nonoperative management in a hemodynamically stable patient.
- 5. Angiography with embolization should be considered in a hemodynamically stable patient with evidence of active extravasation (a contrast blush) on abdominal CT scan.
- 6. Nonoperative management of hepatic injuries should only be considered in an environment that provides capabilities for monitoring, serial clinical evaluations, and an operating room available for urgent laparotomy.

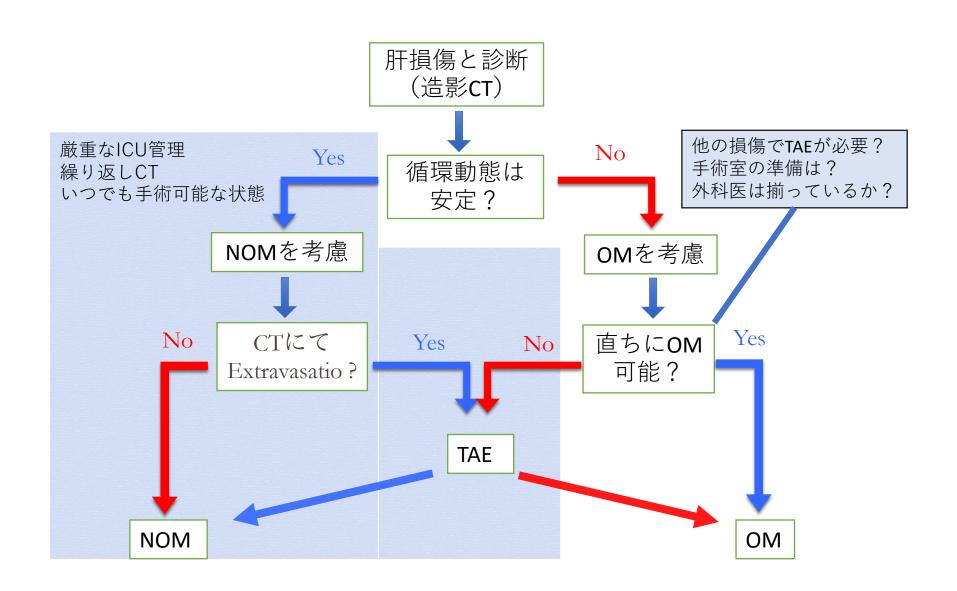
## Recommendations ~2012 EAST Guideline

#### Level 3

1. After hepatic injury, clinical factors such as a persistent systemic inflammatory response, increasing persistent abdominal pain, jaundice, or an otherwise unexplained drop in hemoglobin should prompt reevaluation by CT scan.

- 2. Interventional modalities including endoscopic retrograde cholangiopancreatography, angiography, laparoscopy, or percutaneous drainage may be required to manage complications (bile leak, biloma, bile peritonitis, hepatic abscess, bilious ascites, and hemobilia) that arise as a result of nonoperative management of blunt hepatic injury.
- 3. Pharmacologic prophylaxis to prevent venous thromboembolism can be used for patients with isolated blunt hepatic injuries without increasing the failure rate of nonoperative management, although the optimal timing of safe initiation has not been determined.

#### 当院における鈍的肝損傷の治療戦略



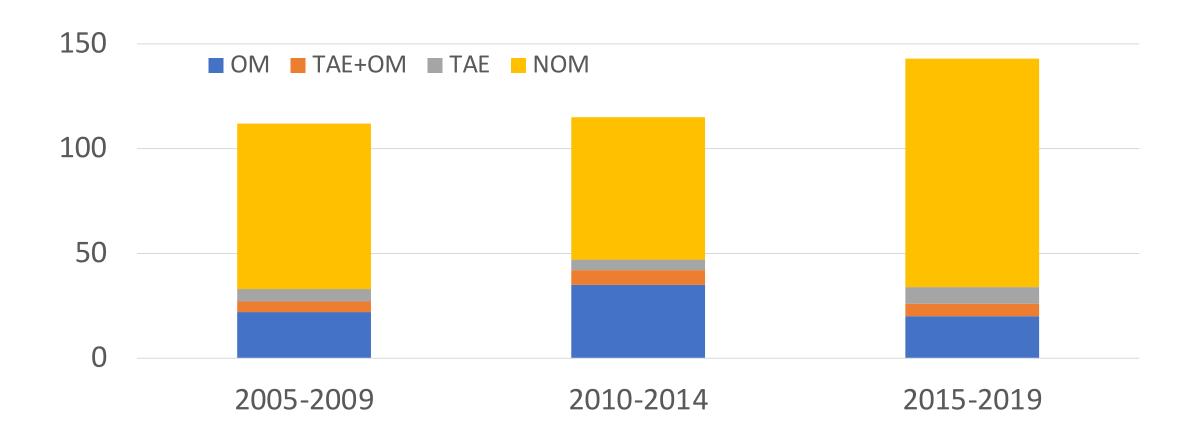
### 当センターの鈍的肝損傷の治療戦略

- 2014年02月 大量輸血の戦略会議(第1回)
- 2014年06月 鈍的肝損傷の戦略会議(第1回)
- 2015年09月 大量輸血の戦略会議(第2回)
- 2016年05月 鈍的肝損傷の戦略会議(第2回)
- 2018年07月 大量輸血の戦略会議(第3回)

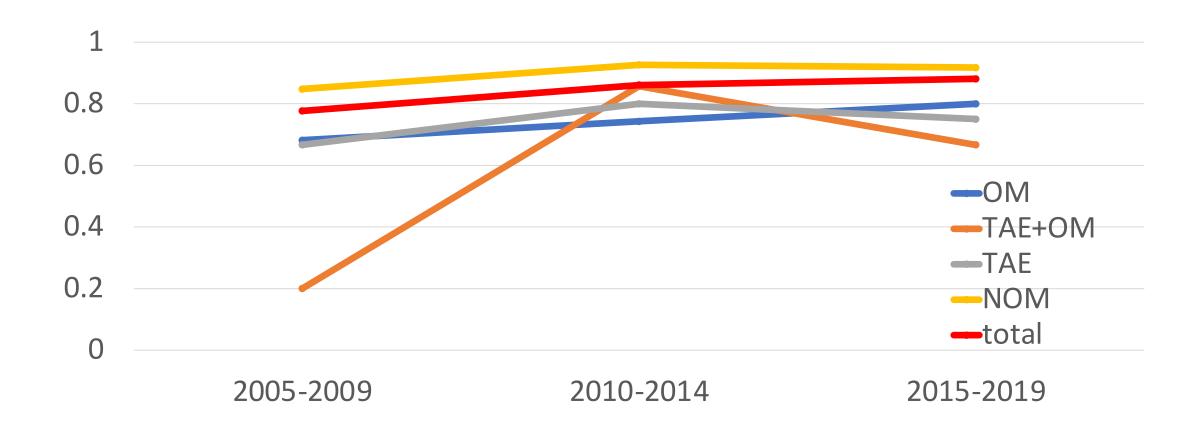
# Characteristics and Outcomes of Blunt Liver Injury (BLI) Patients

	2005-2009	2010-2014	2015-2019
patients; n	112	115	143
age; year	29.5 [0-82]	39 [5-90]	36 [1-90]
male; n (%)	72 (64.3)	85 (73.9)	104 (72.7)
ISS	24 [4-75]	36 [5-64]	24 [4-75]
TAE/OM; n (%)	33 (29.5)	47 (40.9)	34 (23.8)
surviver; n (%)	87 (77.7)	99 (86.1)	126 (88.1)

### Number of patients suffered BLI



#### Survival Rate of BLI



### Number of BLI involving IVCI

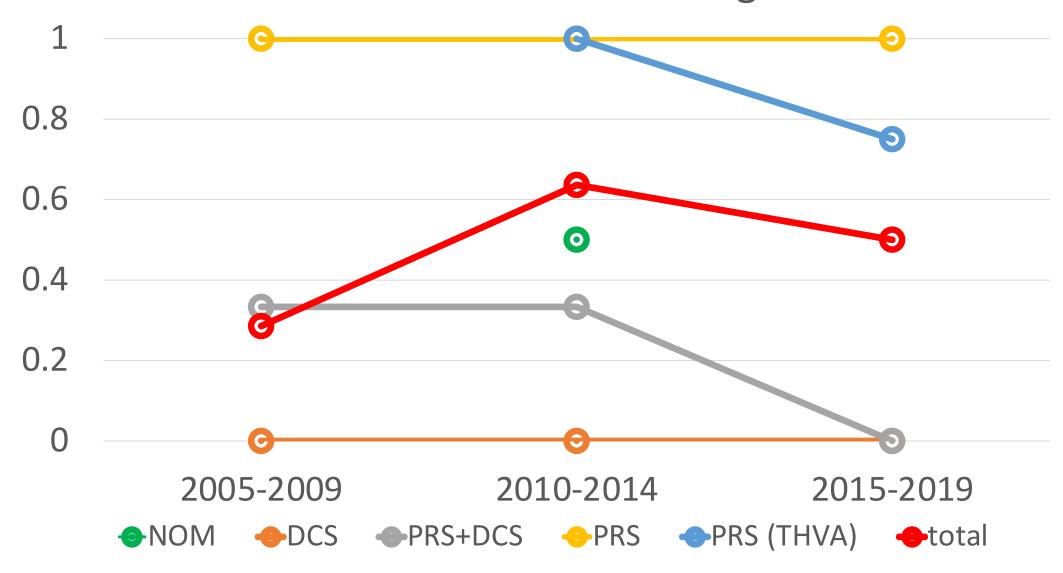
	2005-2009	2010-2014	2015-2019
NOM	0	2	0
DCS	3	1	1
PRS+DCS	3	3	1
PRS	1	4	1
PRS (THVA)	0	1	4
total	7	11	8

DCS; damagencontrol surgery

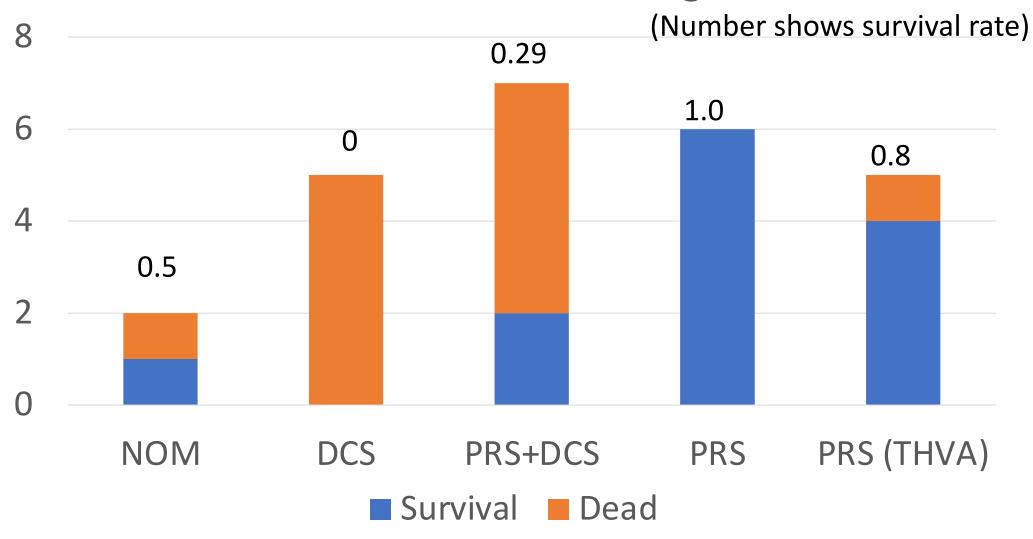
PRS; primary radical surgery

THVE; total hepatic vascular exclusion

#### Survival Rate of BLI involving IVCI



#### Outcomes of BLI involving IVCI



#### 当院における鈍的肝損傷の治療戦略

