How to cope with unexpected incidents during laparoscopic hepatectomy

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Our experiences
Aug. 2008 - Apr. 2013 (57 months)

Lap-assisted-H 8
Totally (pure) Lap-H 121
Anatomical hepatectomy 63
Our standardized procedures

Essential points

- dissection by CUSA
- inflow control by Pringle’s maneuver
- exposing Glissonean branches and hepatic veins clearly
- without pre-coagulation of the cutting plane
Rt. Hemi-hepatectomy
Rt. Hemi-hepatectomy

MHV

IVC

Rt. Hemi-hepatectomy
Rt. Hemi-hepatectomy

MHV

IVC

Rt. Hemi-hepatectomy
Our standardized procedures

**Most important techniques**

- utilization of the unique view from the caudal side
- avoid splitting the hepatic vein
Utilization of the unique view from the caudal side
Our experiences

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Lap-assisted-H 8
Totally (pure) Lap-H 121
Anatomical hepatectomy 63

Conversion to the open surgery 3
Mortality 0

Complications
abscess 1
port site infection 2
ascites 2
biloma / bile leakage 3
Our experiences

Aug. 2008 - Apr. 2013 (57 months)

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Our experiences
Aug. 2008 - Mar. 2013 (55 months)

Conversion to the open surgery 3

Excessive time
  S8 segmentectomy  HCC in fibrotic liver

Positive stump of Glisson
  S8 segmentectomy  Meta. from Colon Ca.

Crash of CUSA
  S3 segmentectomy  HCC
Therefore, we have never encountered critical bleeding.
The self-destruction  自爆
The Ways to Control the Bleeding during Pure Lap-H

1. stop the bleeding
   compression, grasp, Pringle’s maneuver
   adjustment of the pressures

2. find and identify the bleeding point

3. repair the bleeding point
   soft coagulation, division of the vessel
   suture
The Ways to Control the Bleeding during Pure Lap-H

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If CVP is higher.
If CVP is higher. Blood spills out from the hole.
Central venous pressure (CVP)

Pressure gradient

Abdominal air pressure
We recognized one more pressure.
Central venous pressure (CVP)

Amount of infusion

Pneumoperitoneum pressure

Abdominal air pressure

Intrathoracic pressure
Intrathoracic pressure

Diaphragm

Amount of infusion

Central venous pressure (CVP)

Pneumoperitoneum pressure

Airway pressure

Abdominal air pressure

Intrathoracic pressure
Communication with anesthesiologist is very important.
Adjustment of the pressure

Basic state of the pressure

The abdominal pressure 10 mmHg
Infusion dry side

The airway pressure normal

During control the bleeding from the HV

1. Occluding the hilum inflow

2. Reduction of the airway pressure
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- **LAPRA-TY®**

4–0 Vicryl with an SH–1 needle, 5–8 cm in length
Thank you for your kind attention.

It’s an accident!

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