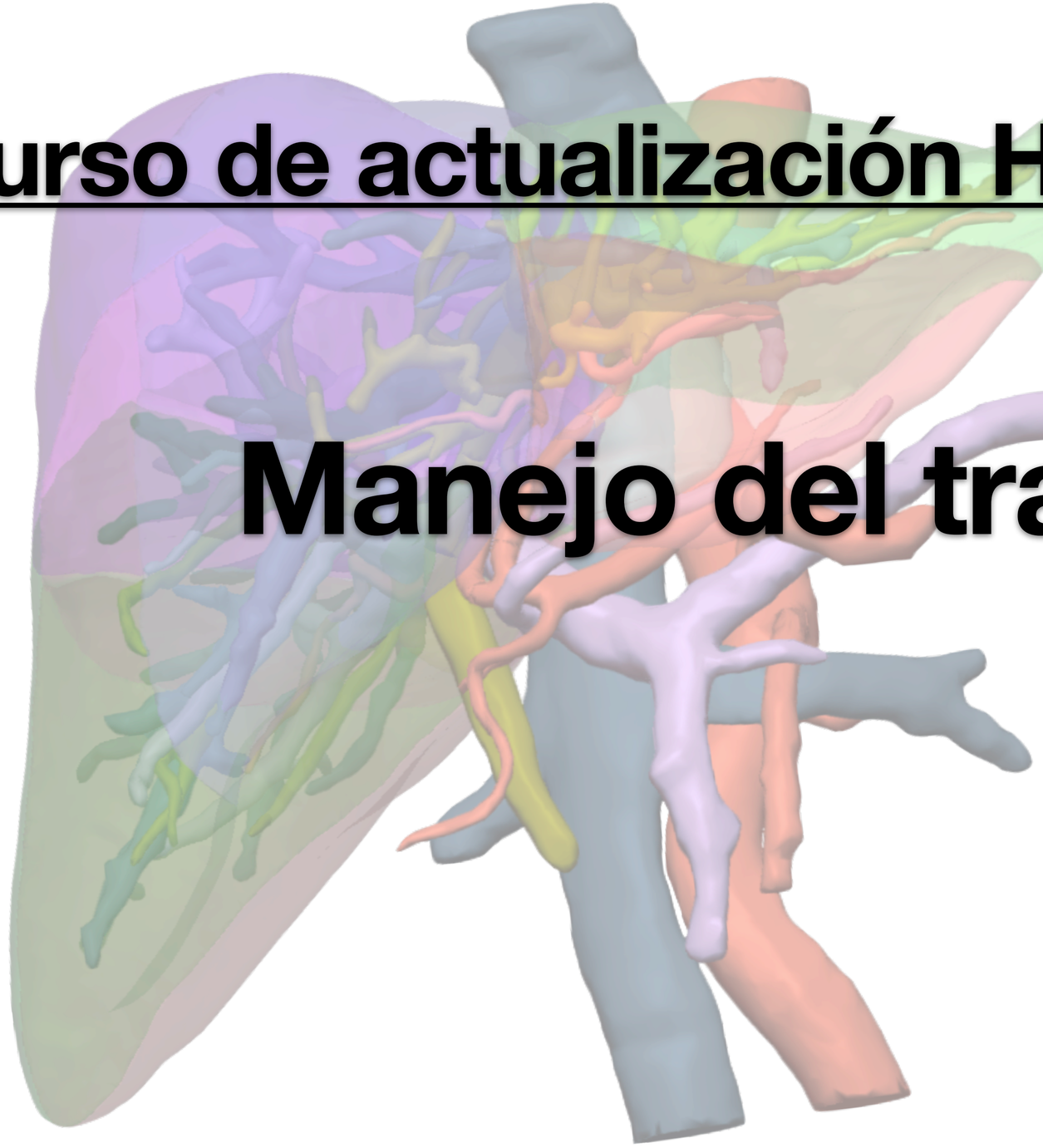
# Curso de actualización HBP:

# Manejo del trauma hepático



Marina Garcés Albir
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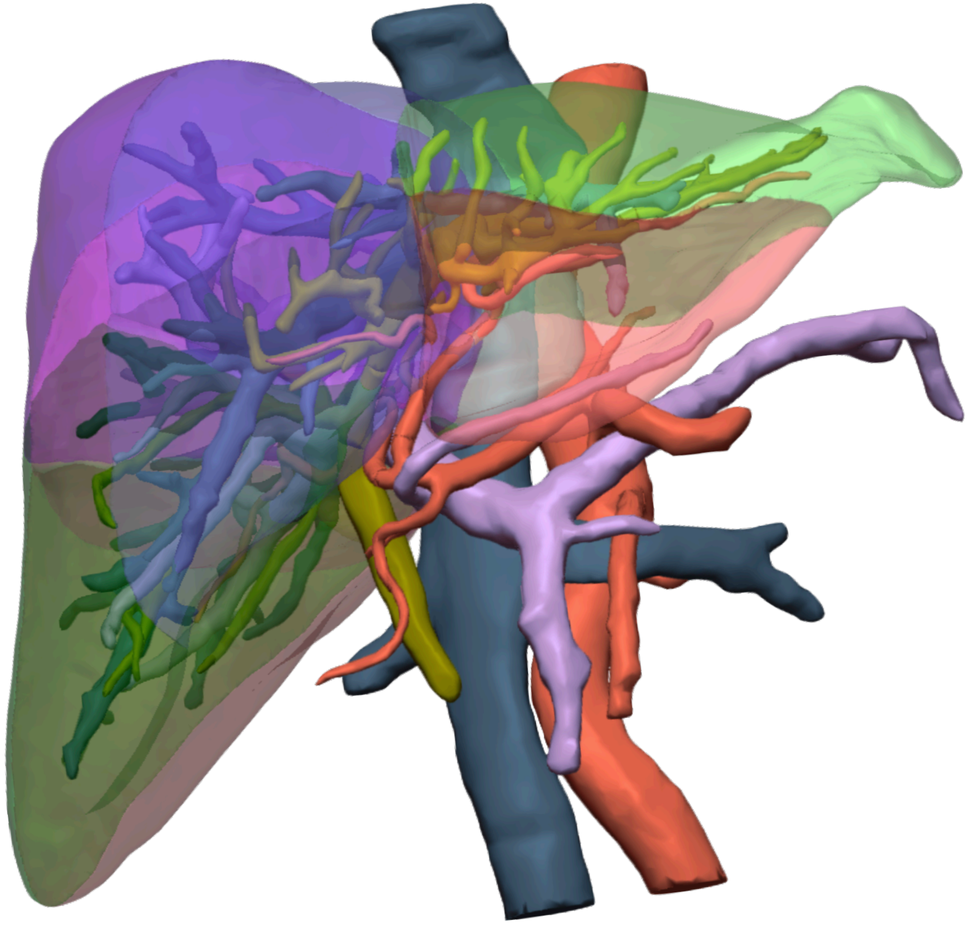
CLÍNIC-LA MALVA-ROSA

VNIVERSITAT DE VALÈNCIA

Lesión muy frecuente.



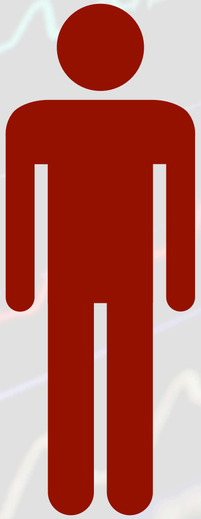
> 80% NON-OPERATIVE MANAGEMENT (**NOM**).

**Trauma Grave:**

- Trauma vascular.
- Mb-Mt elevada.

# HEMODINÁMICAMENTE INESTABLE

- PAS < 90 mmHg
- Signos de shock
- Taquipnea y/o
- Nivel de consciencia alterado



PAS > 90 mmHg, pero…

Transfusión 4U/8hs

Drogas vasopresoras

EB > 5 mmol/l

## EVALUACIÓN INICIAL

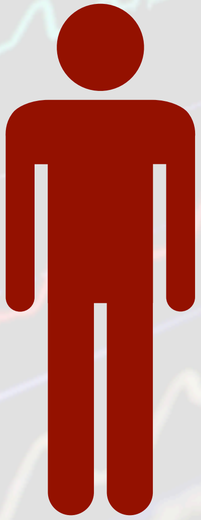
# HEMODINÁMICAMENTE INESTABLE

PAS < 90 mmHg

Signos de shock

Taquipnea y/o

Nivel de consciencia alterado

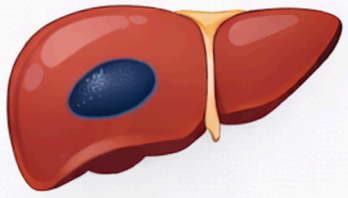


- PAS > 90 mmHg, pero…
- Transfusión 4U/8hs
- Drogas vasopresoras
- EB > 5 mmol/l

## EVALUACIÓN INICIAL

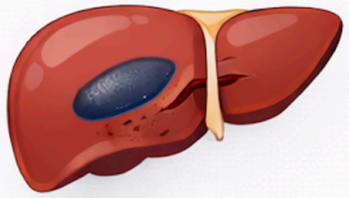
# AAST: anatómica

## Grado I



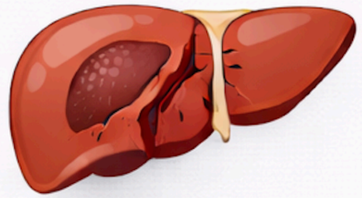
- Hematoma subcapsular <10%
- Laceración <1 cm

## Grado II



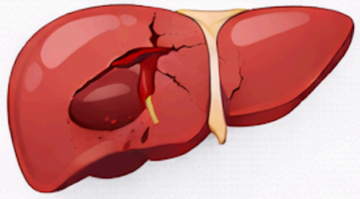
- Hematoma subcapsular 10-50%
- Laceración 1-3 cm

## Grado III



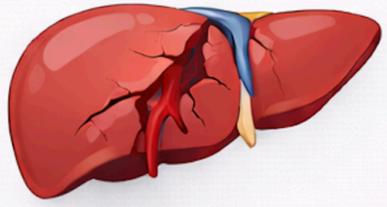
- Hematoma >50%
- Laceración >3 cm

## Grado IV



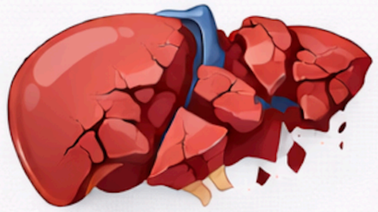
- Rotura 25-75% de un lóbulo
- Lesión vascular segmentaria

## Grado V



- >75% del lóbulo
- Lesión vena suprahepática

## Grado VI



- Avulsión hepática masiva
- Desinserción completa

## CLASIFICACIÓN

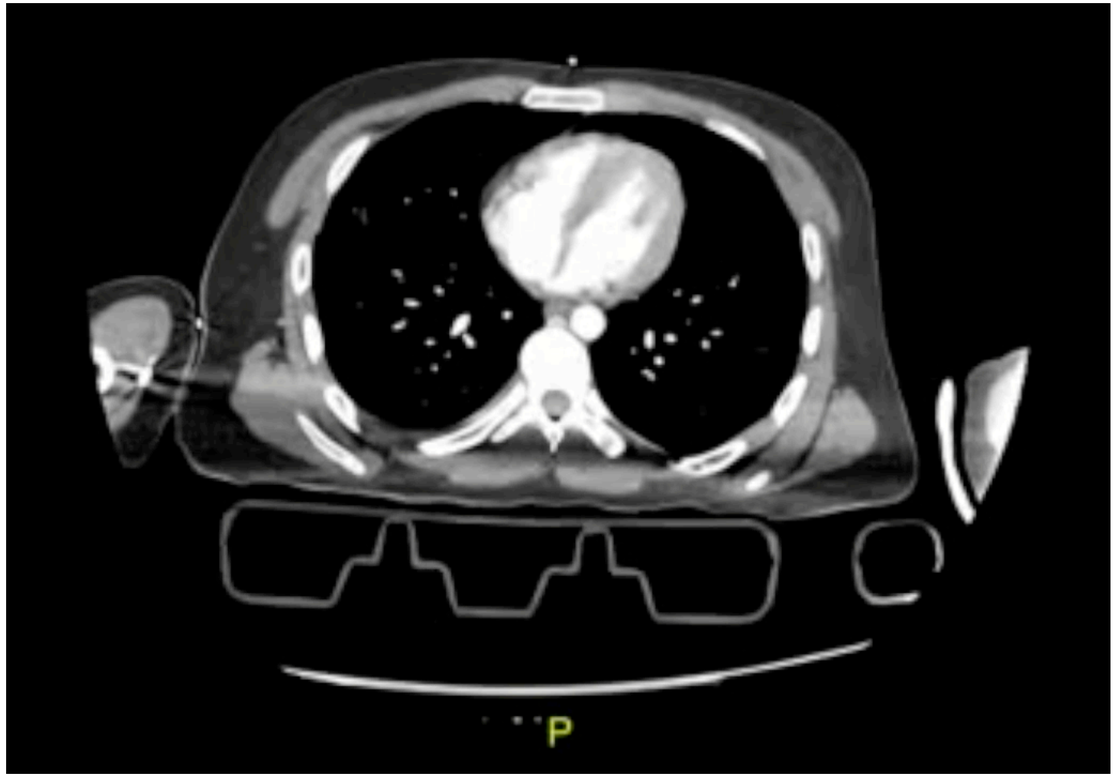
# WSES: anatómica + fisiológica

| | WSES grade | AAST | Hemodynamic |
|---|---|---|---|
| Minor | WSES grade I | I–II | Stable |
| Moderate | WSES grade II | III | Stable |
| Severe | WSES grade III | IV–V | Stable |
| | WSES grade IV | I–VI | Unstable |

## CLASIFICACIÓN

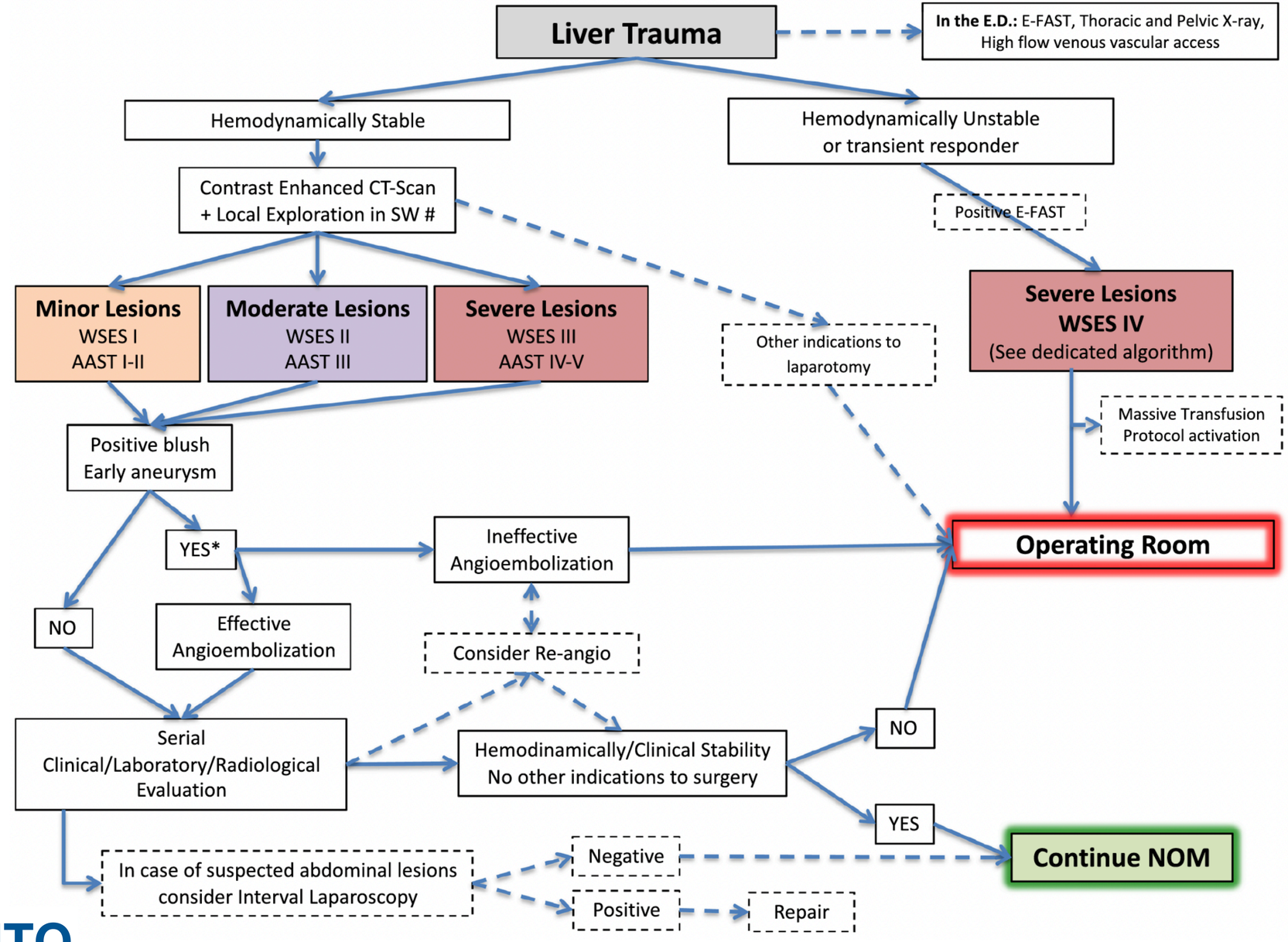
**E-FAST**

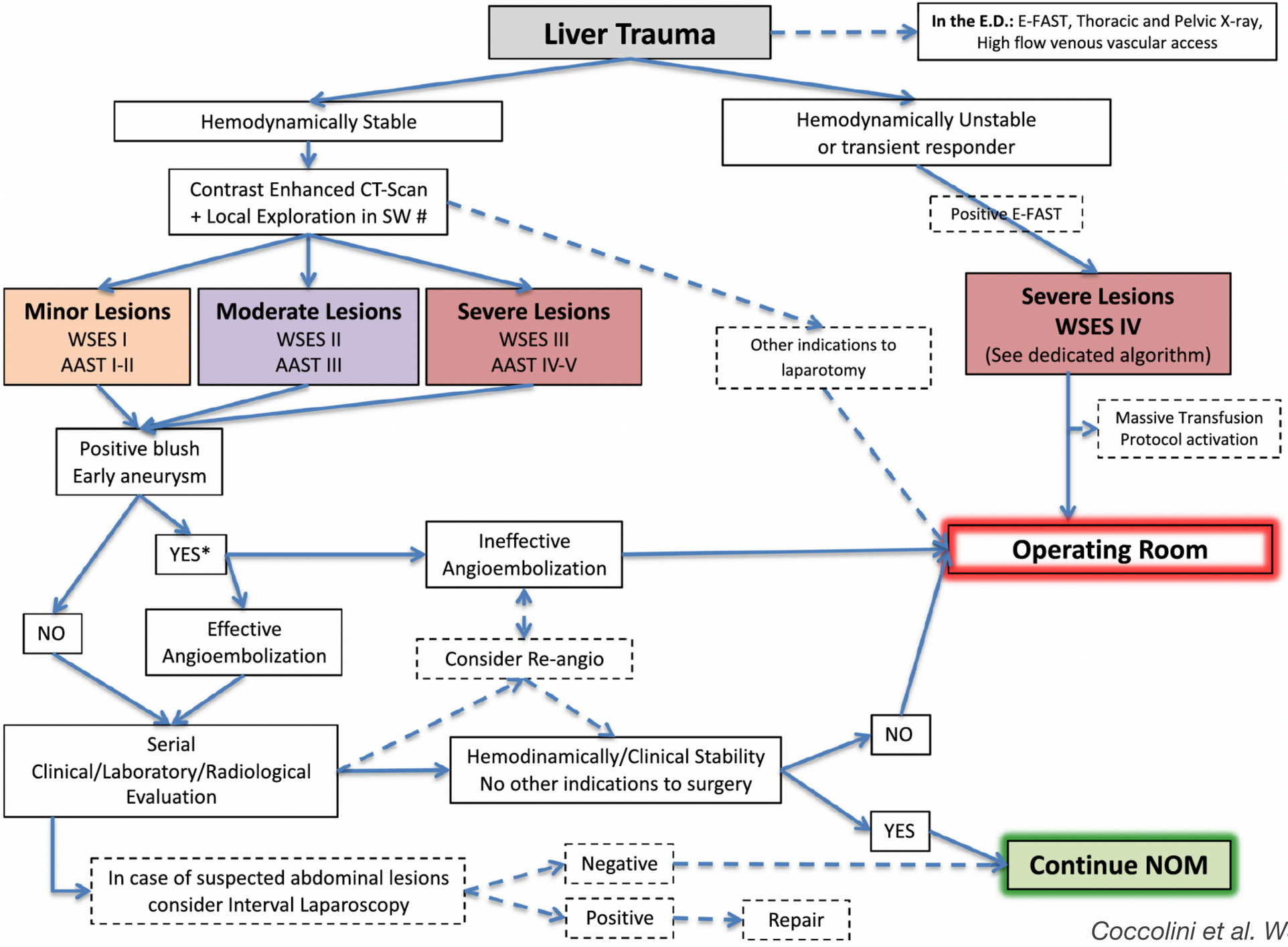
## CT scan




*Gold standar en pacientes “estables”*

# TRATAMIENTO






*Coccolini et al. WSES, 2020*

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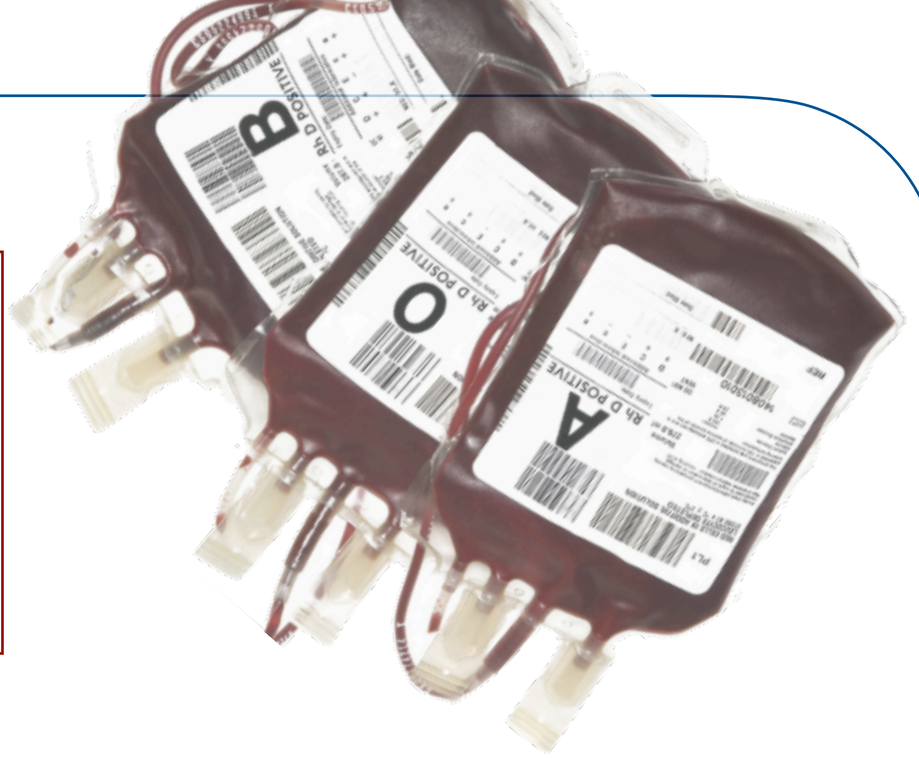
**NOM**

***"de elección"***

- NO lesiones quirúrgicas asociadas.
- Respondedores transitorios: Hospital APTO.
- TC con contraste iv SIEMPRE.

# MANEJO NO OPERATORIO (NOM)

- Neumo o retroperitoneo.
- Líquido libre sin lesión de víscera maciza.
- Proyectil cercano a asa de intestino con hematoma.
- Trauma penetrante de alta energía.




No contraindicación absoluta.

90% de fracaso.

- TCE severo asociado.
- Transfusión >4 U / 8hs.

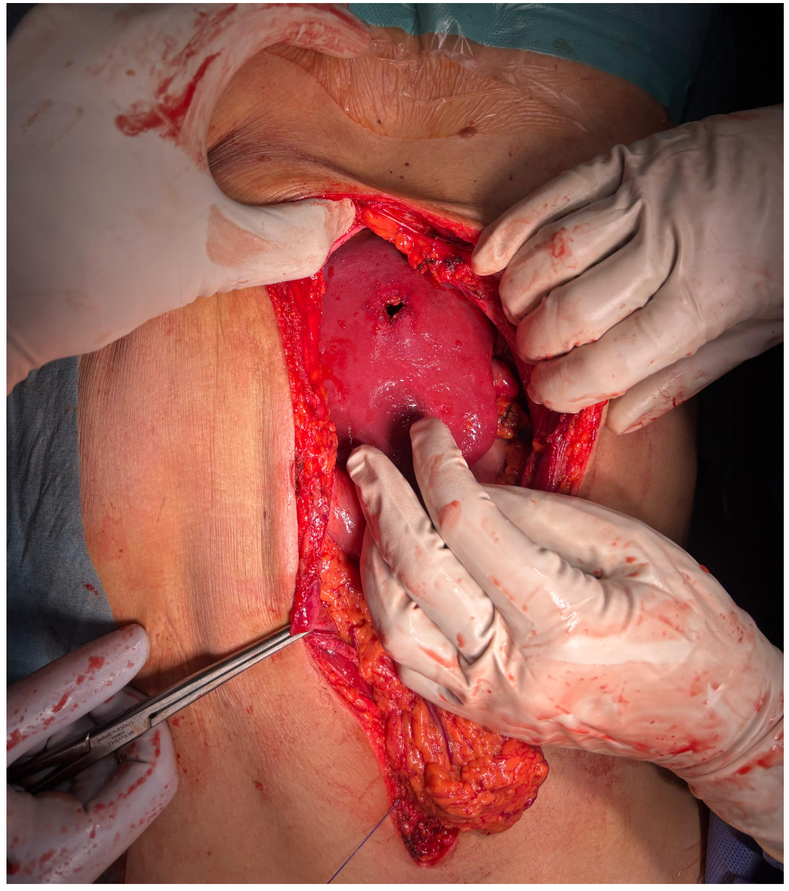
# MANEJO NO OPERATORIO (NOM)

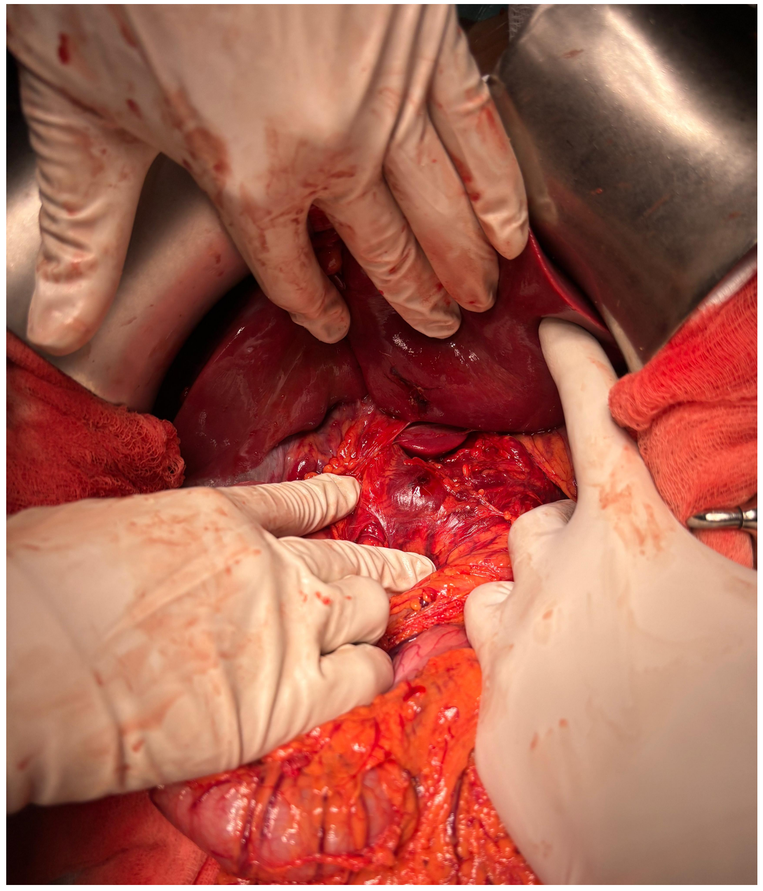
# Trauma penetrante

- Centros especializados
- Éxito:
  - Baja energía: 50-85%
  - Alta energía: <10%
- Laparoscopia en todos los casos?

## MANEJO NO OPERATORIO (NOM)

# Trauma penetrante



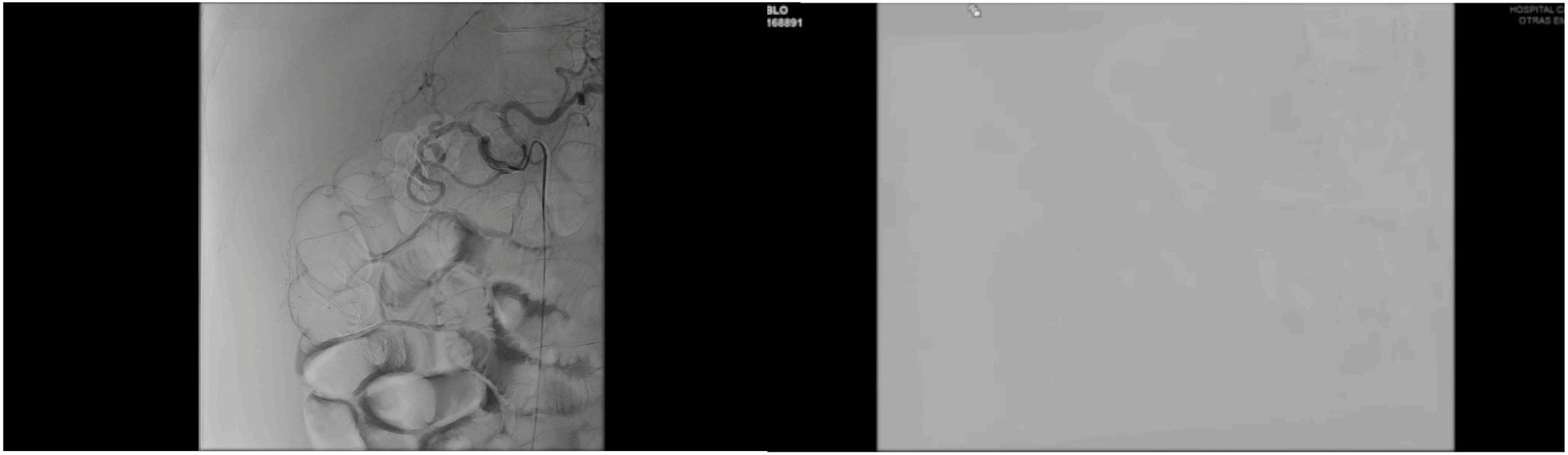


## MANEJO NO OPERATORIO (NOM)

# Embolización arterial

TC con contraste iv | Pseudoaneurisma

*Arterial blush*

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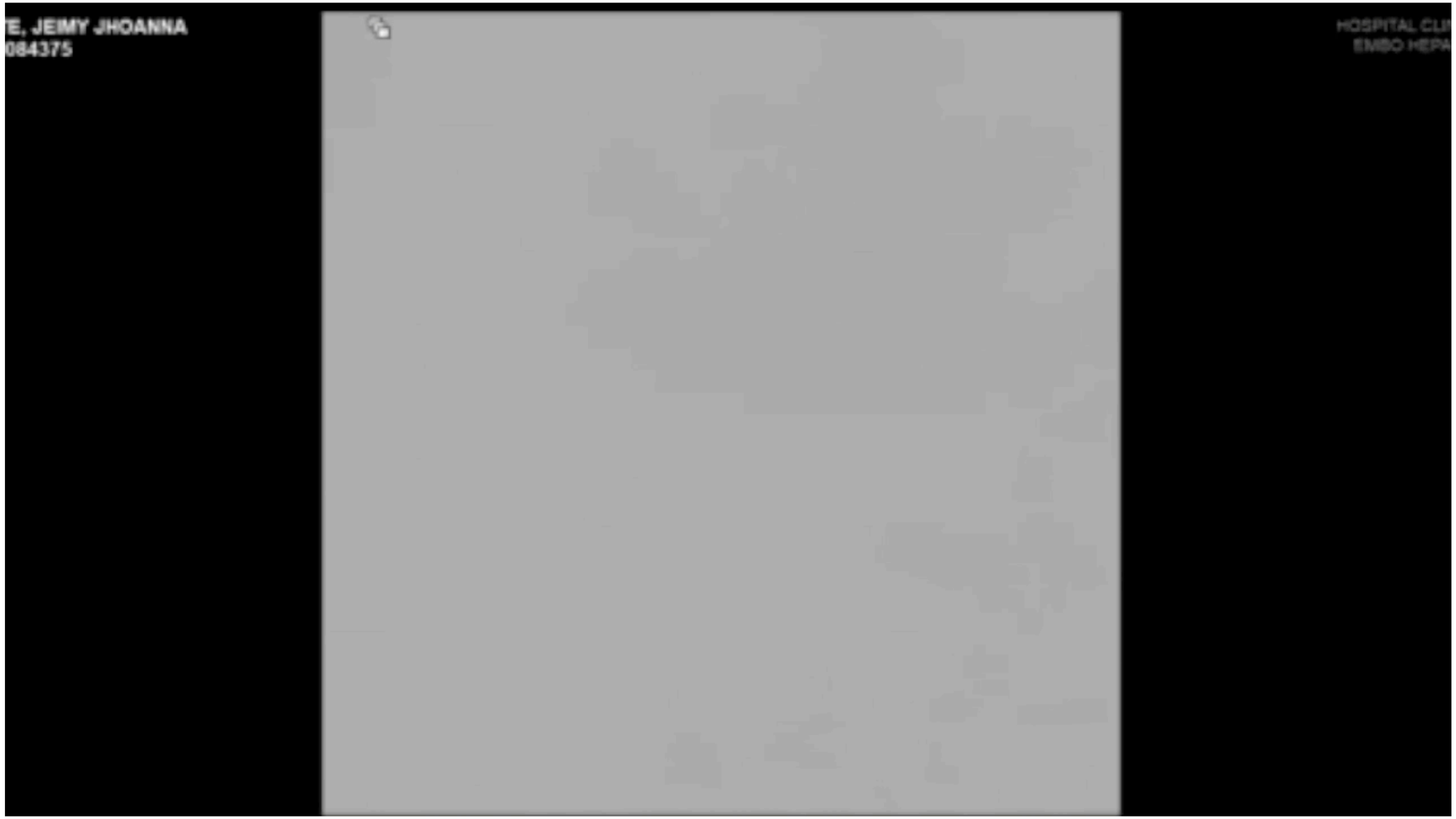
# Embolización arterial




## MANEJO NO OPERATORIO (NOM)

**12-14%**

| | | |
|---|---|---|
| **Complicaciones biliares** | **2,8-30%** | Drenaje percutáneo +/- CPRE |
| **Necrosis parénquima hepático** | **0,5-3%** | Cirugía? |
| **Re-sangrado** | **1,7-5,9%**<br>**Mortalidad 18%** | Embolización (éxito 69%) |
| **Pseudoaneurisma arteria hepática** | **1 %** | Embolización |
| **Abscesos** | **0,6-7%** | Drenaje percutáneo |

Cirugía
"de rescate"

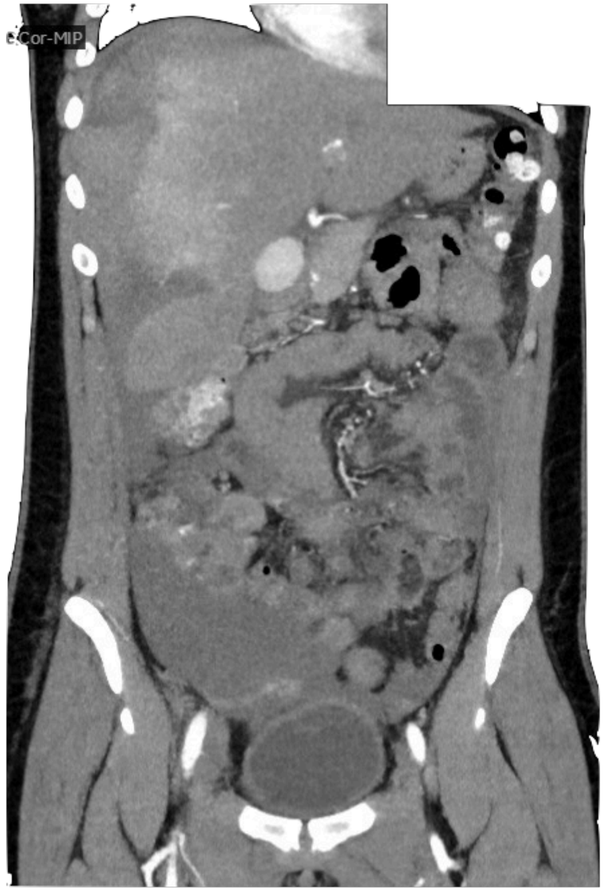
# COMPLICACIONES

# TCE grave + Trauma hepático

Paciente

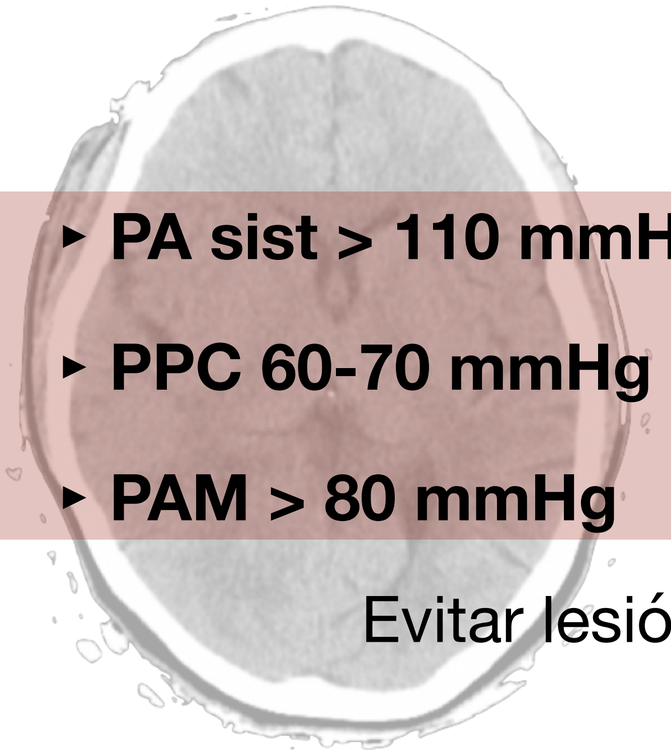
*“estable”*

+



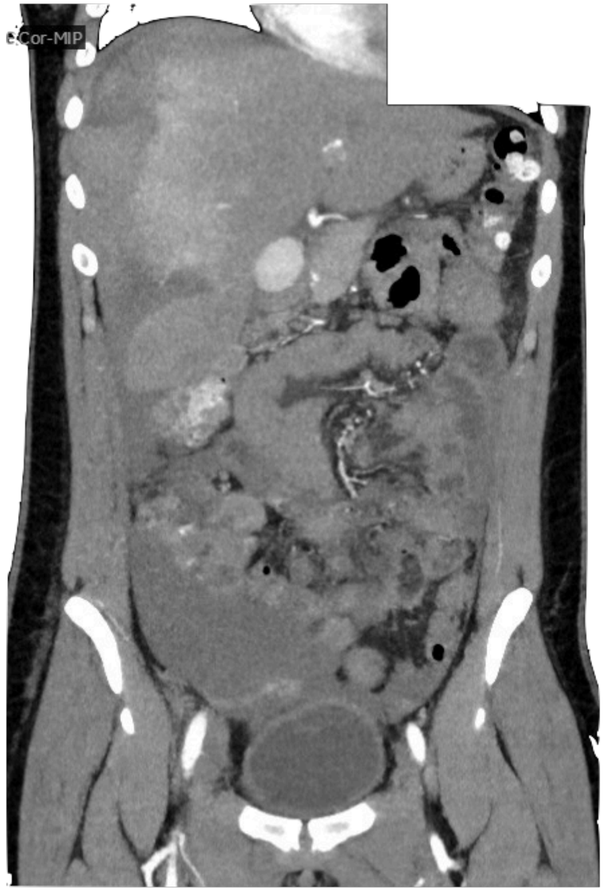

## MANEJO NO OPERATORIO (NOM)

# TCE grave + Trauma hepático



- PA sist > 110 mmHg
- PPC 60-70 mmHg
- PAM > 80 mmHg

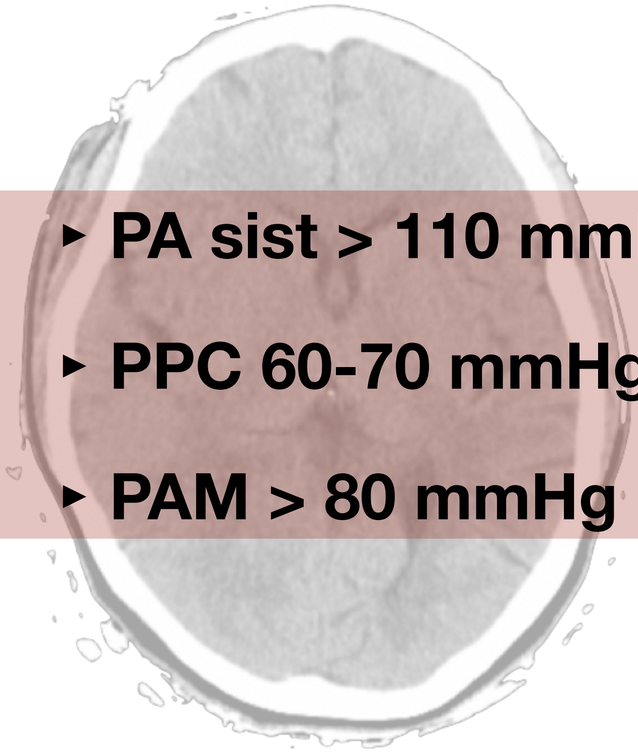
+




Evitar lesión secundaria

## MANEJO NO OPERATORIO (NOM)

# TCE grave + Trauma hepático



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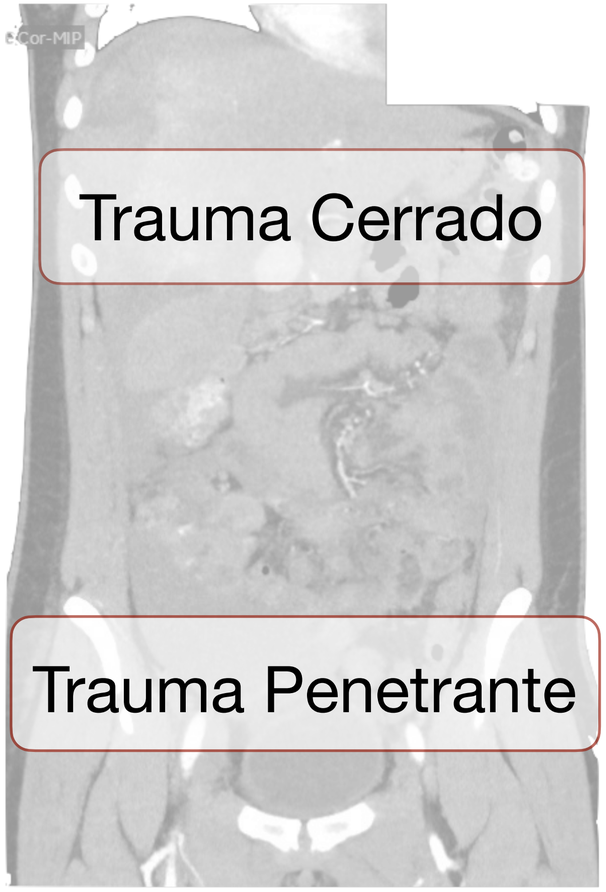



**NOM**

**¿Cirugía?**

## MANEJO NO OPERATORIO (NOM)

# ¿LAPAROSCOPIA en trauma hepático?

- Lesiones penetrante alta energía.
- Sospecha lesiones intestinales asociadas.
- Cirugía de intervalo.
- Evitar si TCE grave?

NOM ⟶ CIRUGÍA

**REVIEW**

# Cesena guidelines: WSES consensus statement on laparoscopic-first approach to general surgery emergencies and abdominal trauma

- **Tasa de conversión:** 26.2% **FR** hemoperitoneo, lesión órgano retroperitoneal
- Reducción **laparotomias**: 69% a **47.5%.**
- Aumento **laparoscopia terapéuticas**: 7.2% a **22.7%.**

→ Abordaje de elección en pacientes ESTABLES.

# ¿Cuándo operamos?

Sospecha lesiones asociadas

Fracaso NOM

Inestabilidad hemodinámica

↓

LAPAROSCOPIA EXPLORADORA → LAPAROTOMIA

# ¿Cuándo operamos?

Sospecha lesiones asociadas

Fracaso NOM

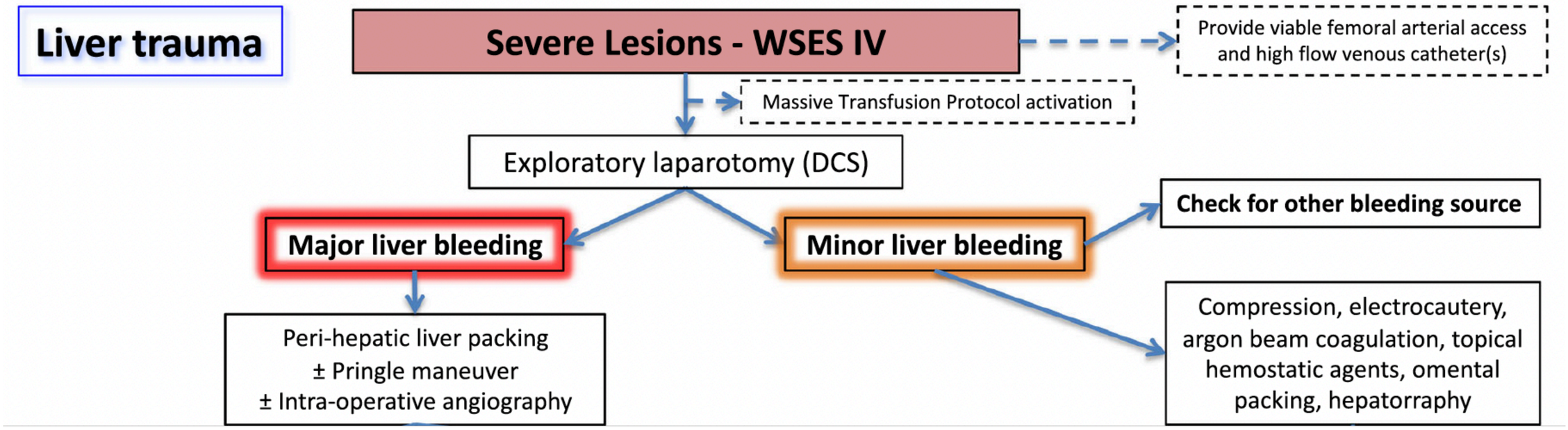
Inestabilidad hemodinámica

↓

LAPAROSCOPIA EXPLORADORA

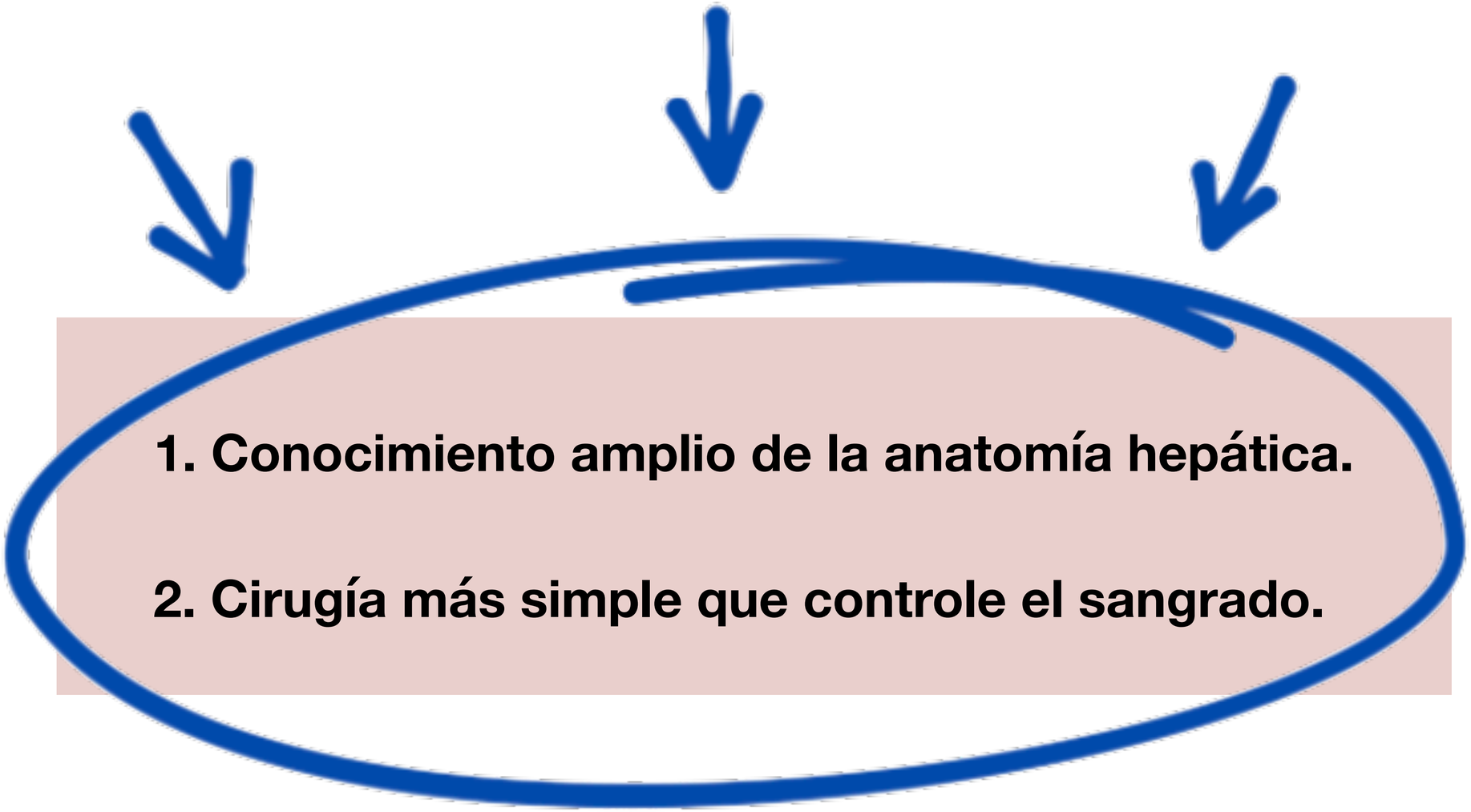
↓

LAPAROTOMIA




*Coccolini et al. WSES, 2020*

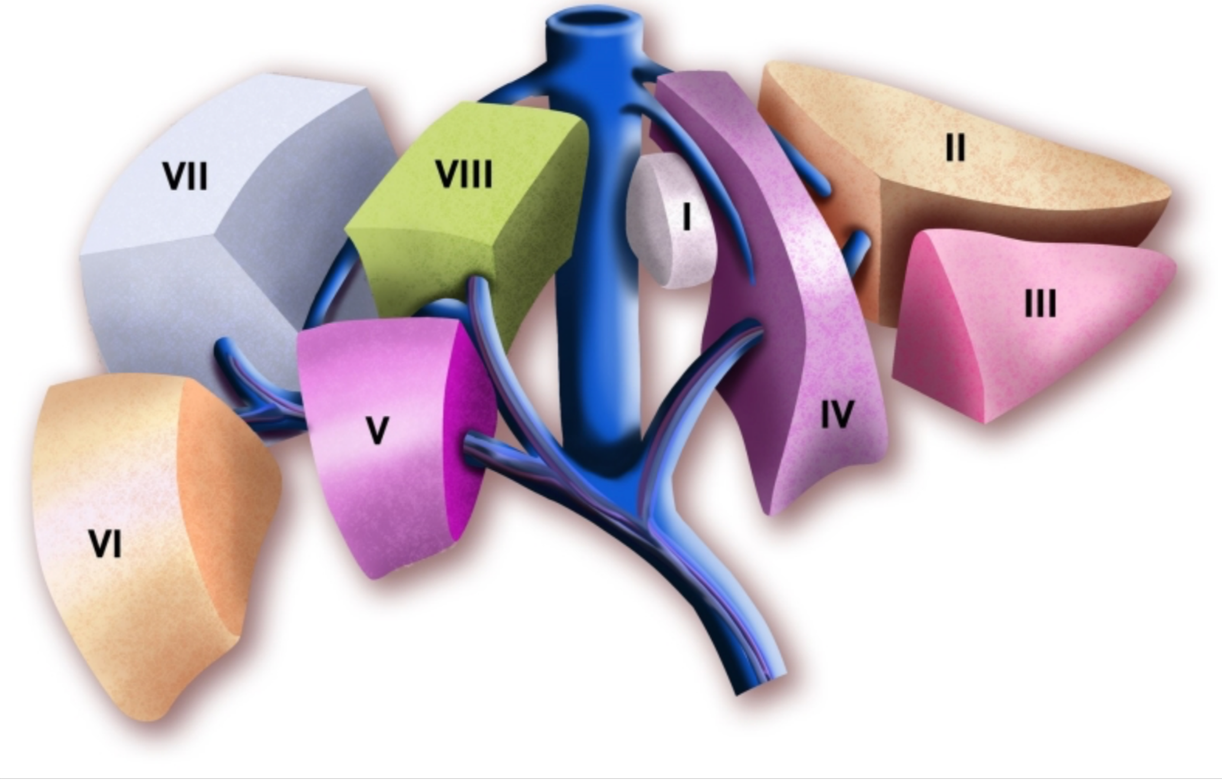
# Principios básicos



1. Conocimiento amplio de la anatomía hepática.

2. Cirugía más simple que controle el sangrado.

## 1. Conocimiento amplio de la anatomía hepática.



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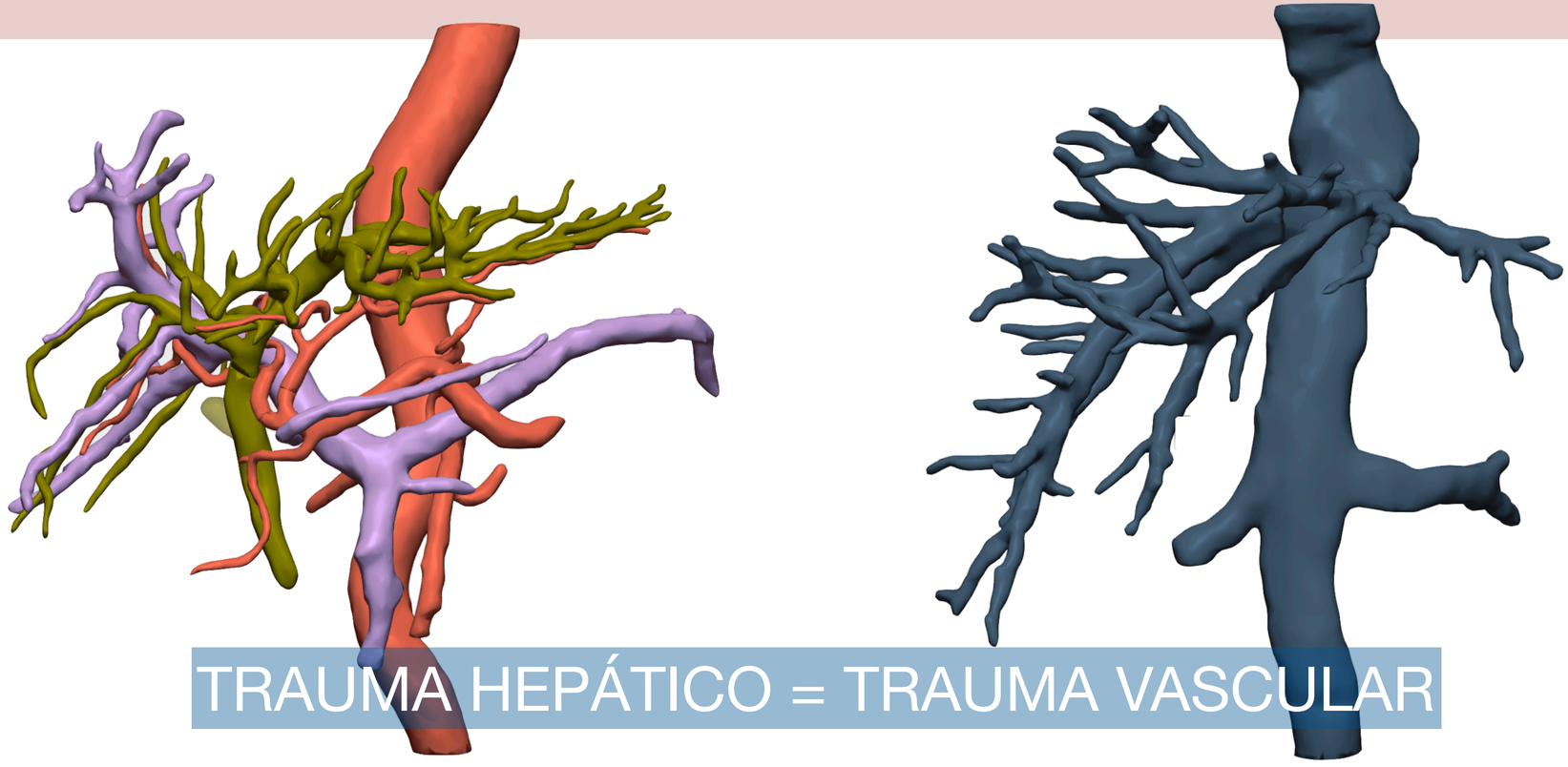
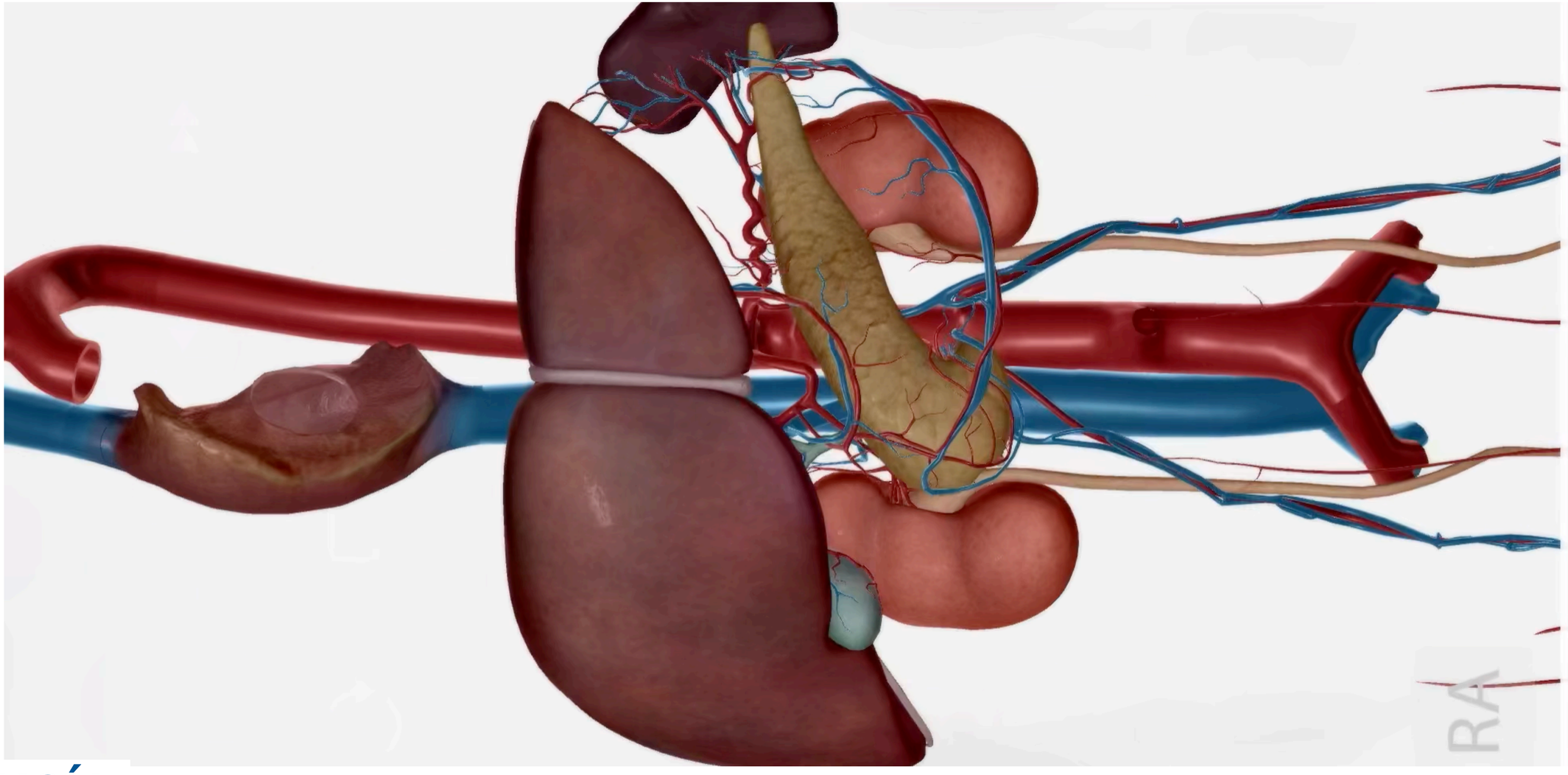


TRAUMA HEPÁTICO = TRAUMA VASCULAR

# Principios básicos



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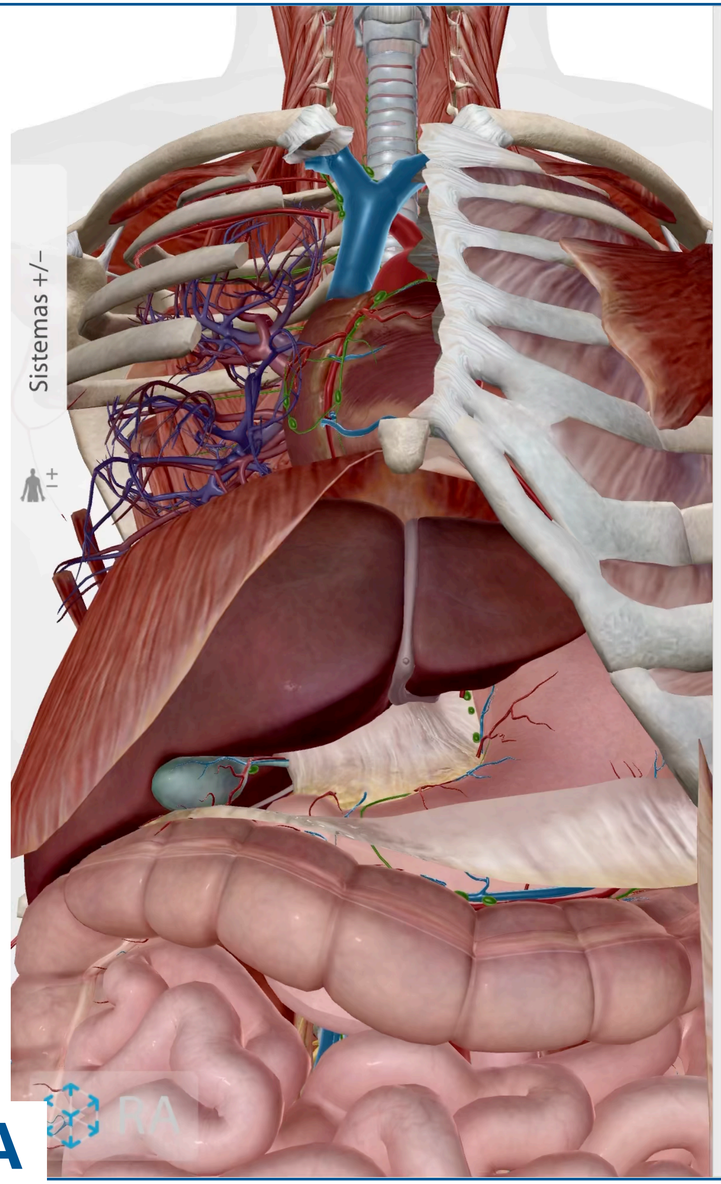
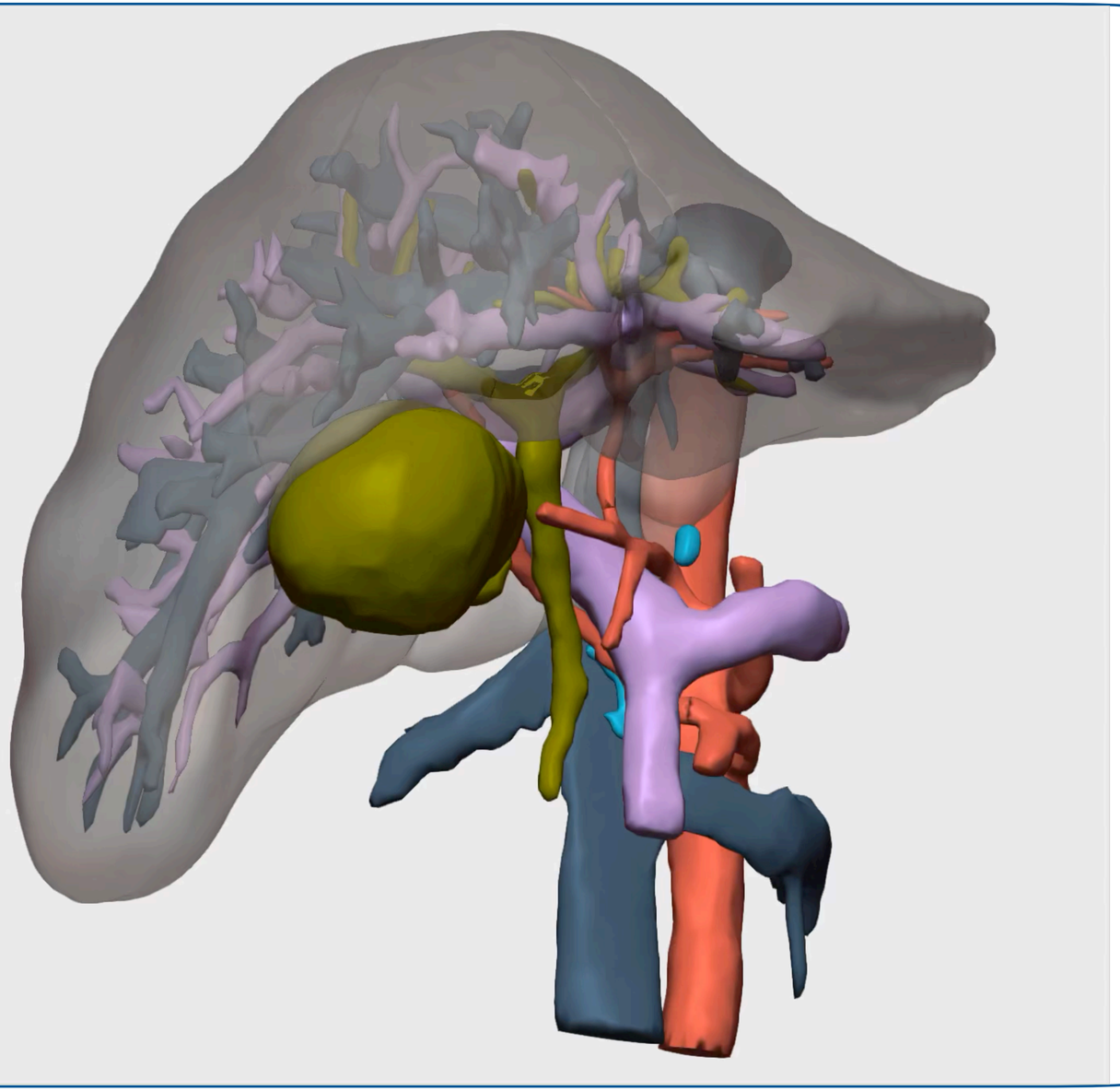


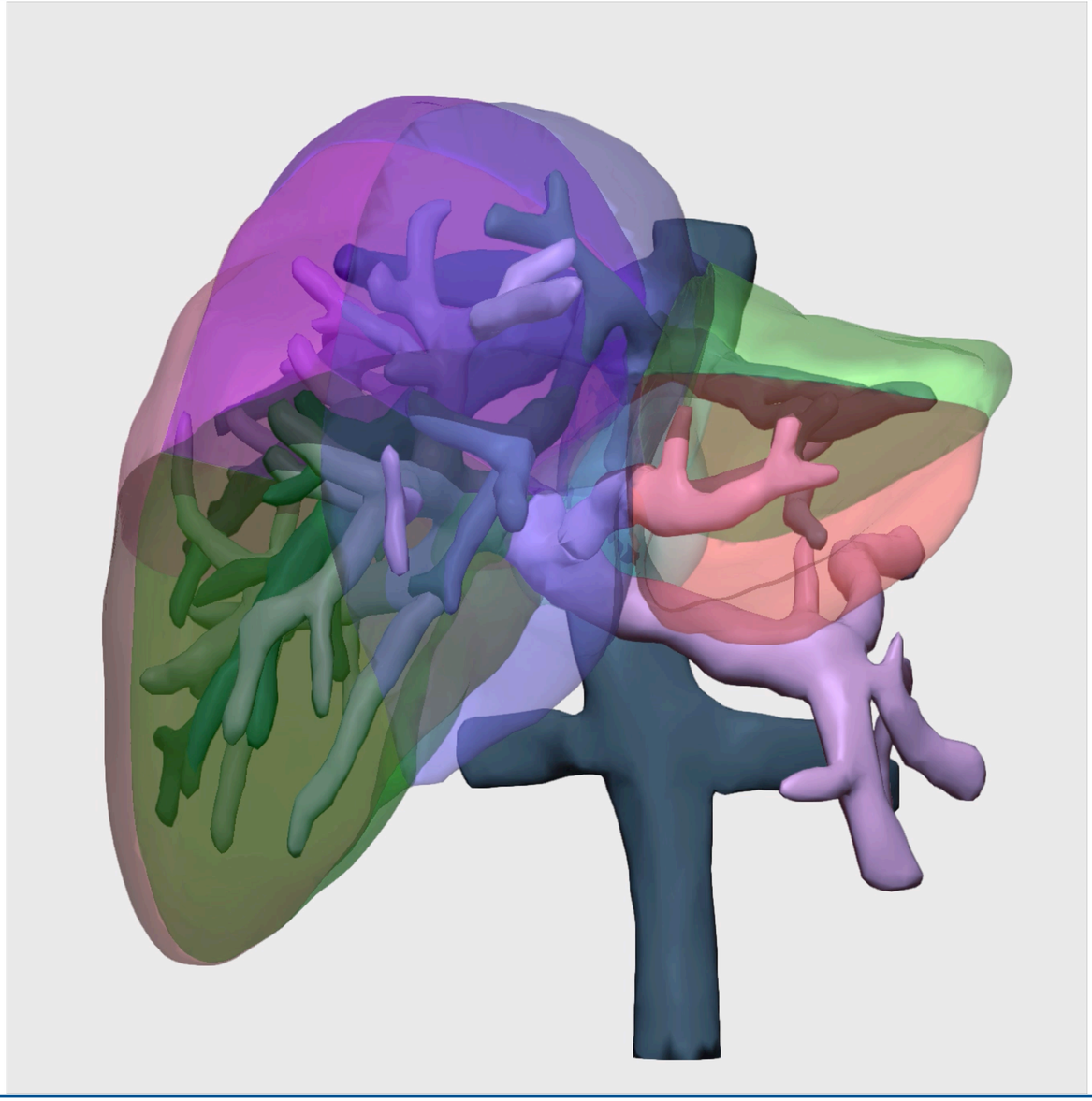



CIRUGÍA

# Principios básicos

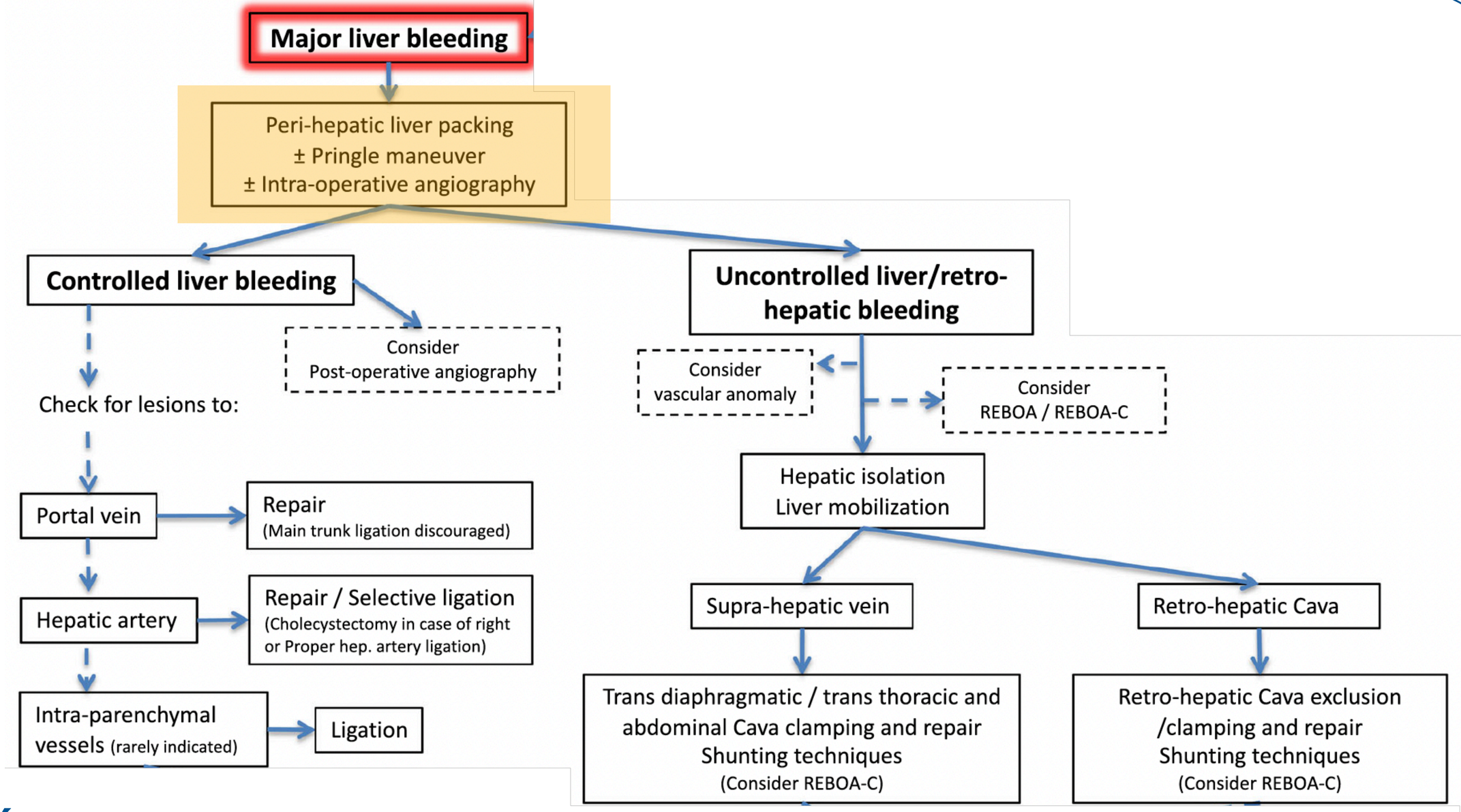
Derecho

**60-70%**

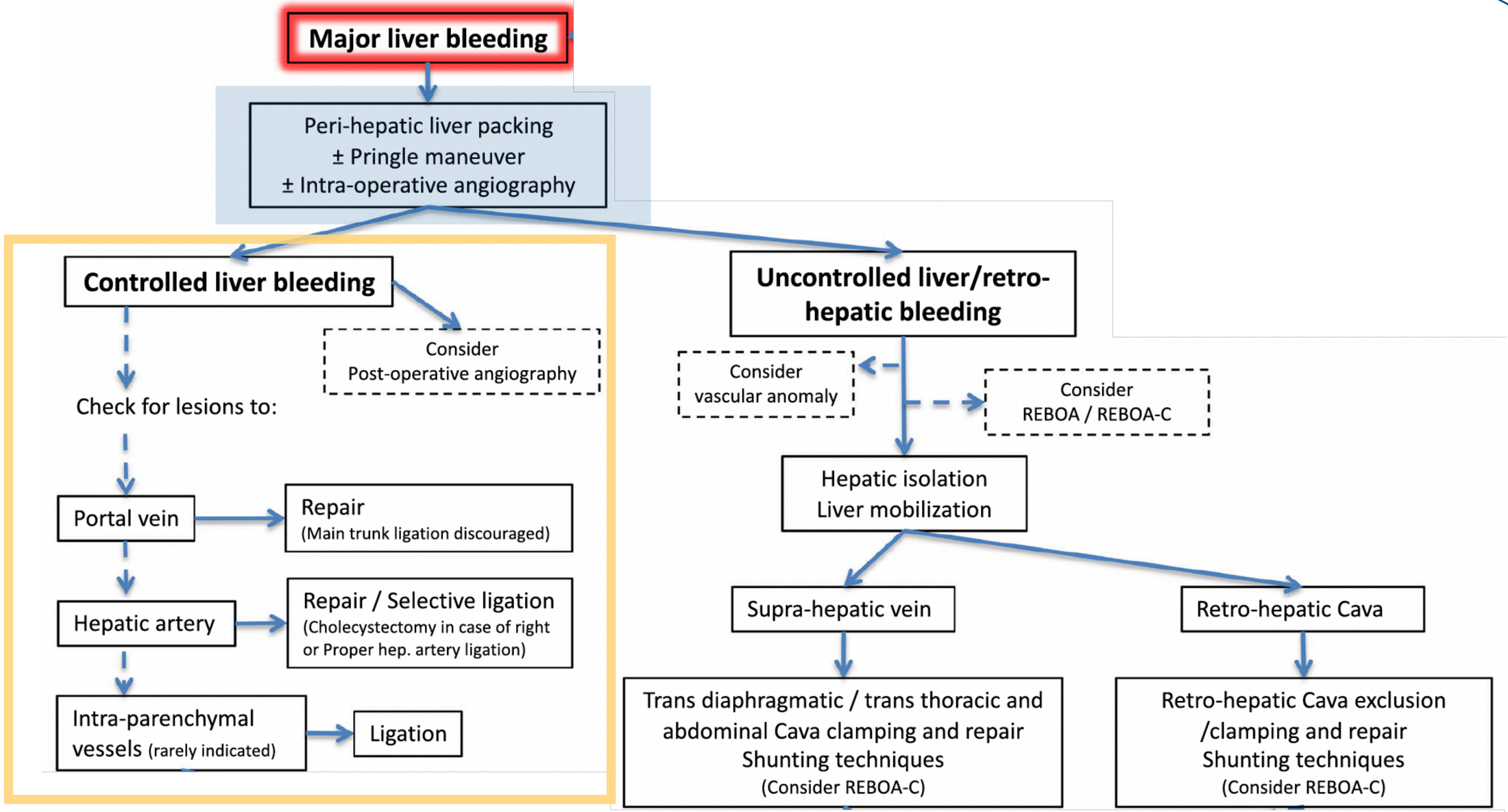


Izquierdo

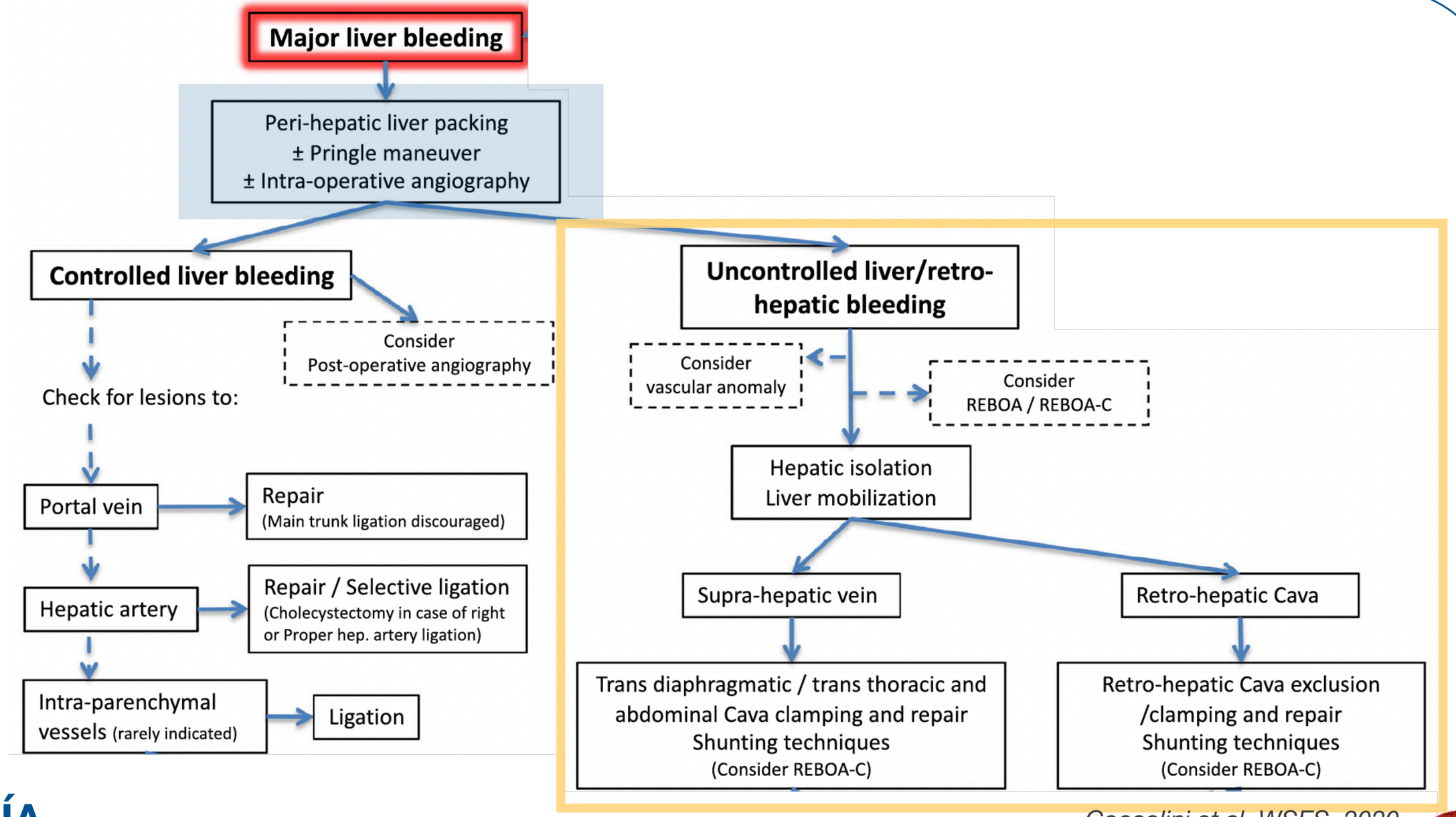
**20-30%**




*Coccolini et al. WSES, 2020*

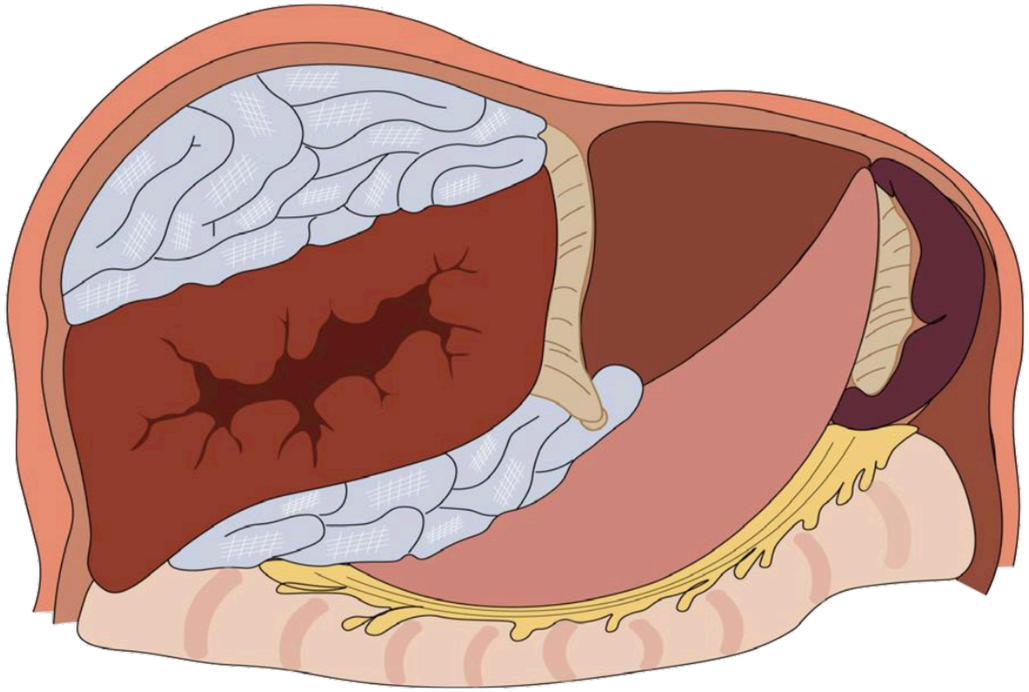



*Coccolini et al. WSES, 2020*




*Coccolini et al. WSES, 2020*

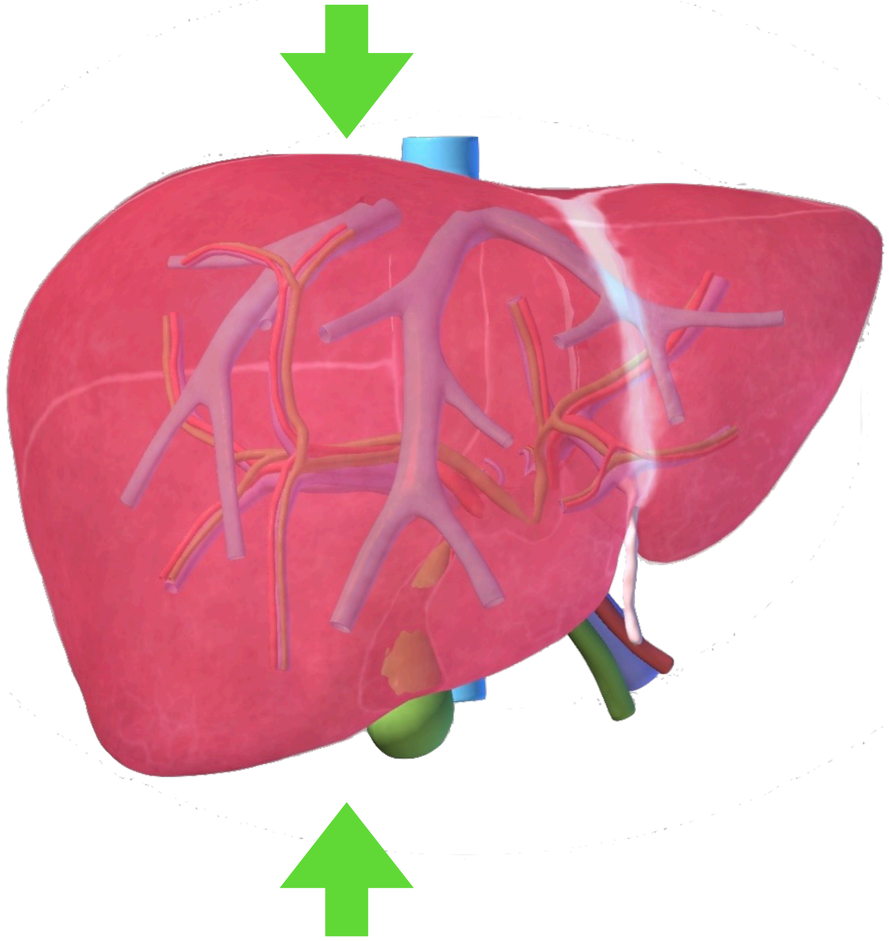
# Packing hepático



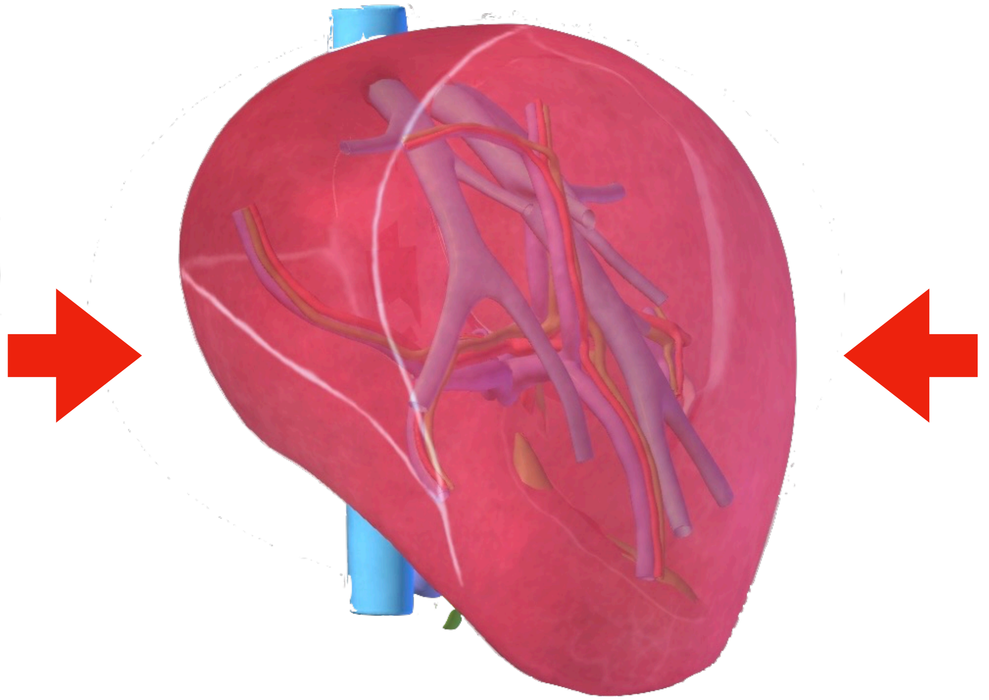
STOP → Venoso

PERSISTE → Incorrecto

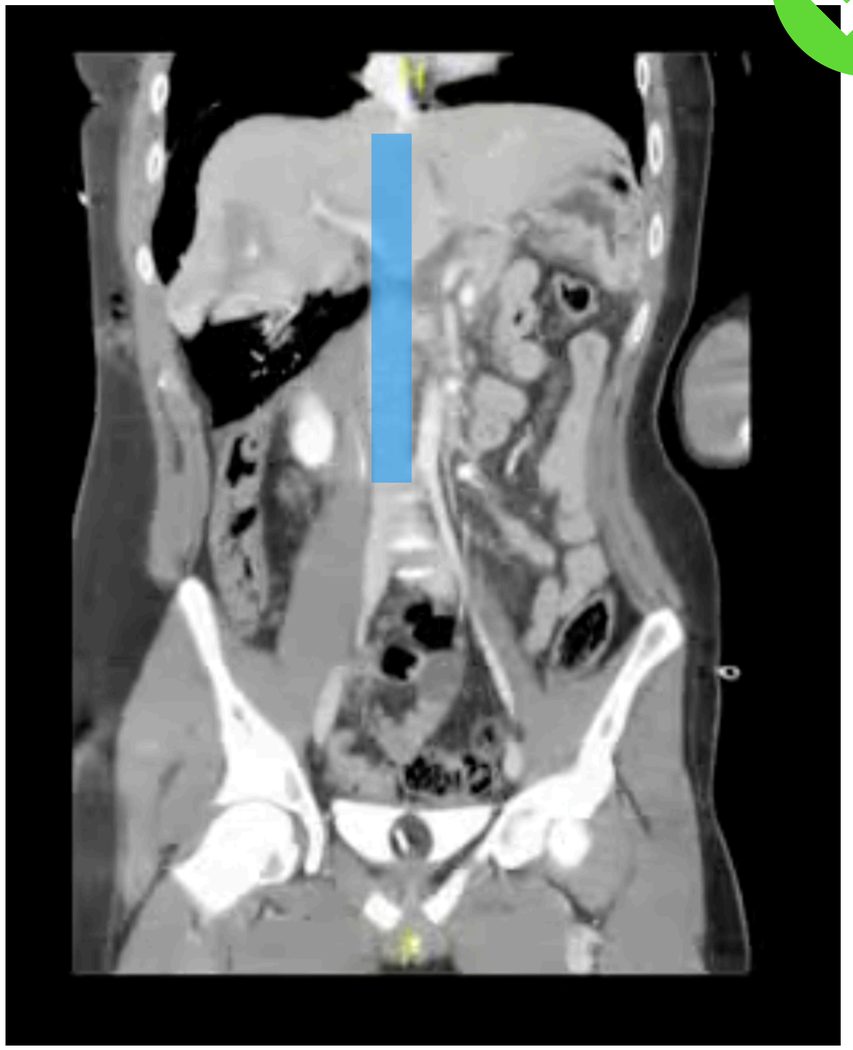
# Packing hepático



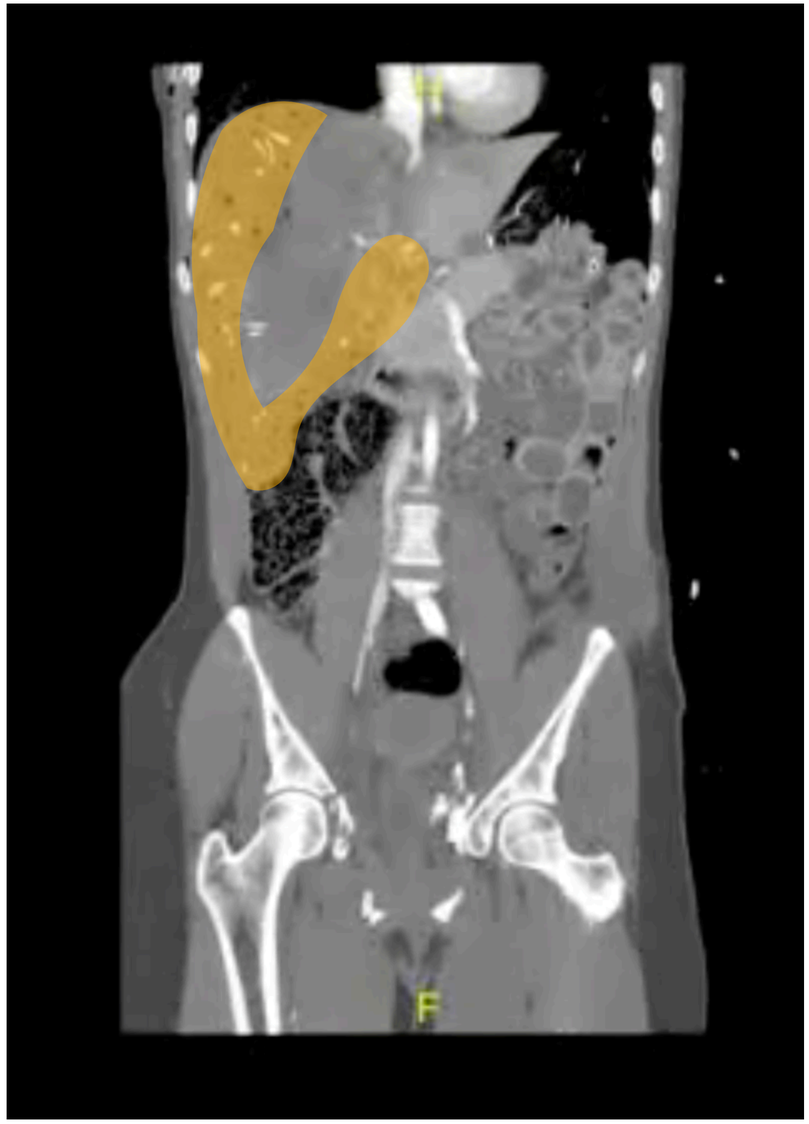
Incorrecto: EVITAR



# Packing hepático



# Packing hepático



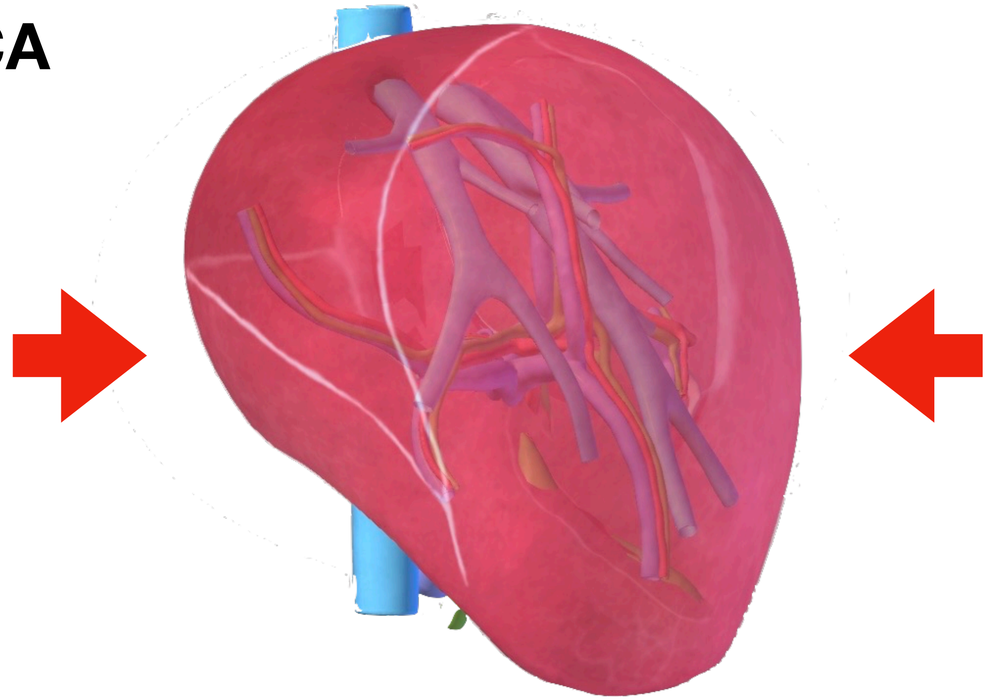
# Packing hepático

Compresión vena cava = ↓ precarga

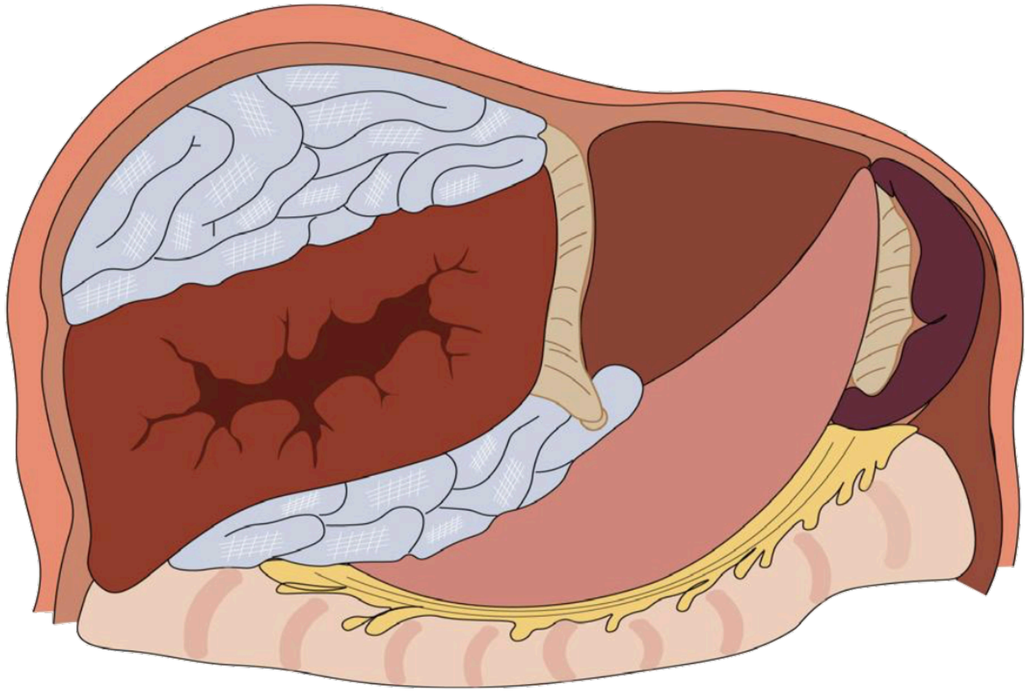
**SHOCK OBSTRUCTIVO + SCA**

EVITAR, excepto:

lesiones vasculares posteriores



# Packing hepático



STOP → Venoso

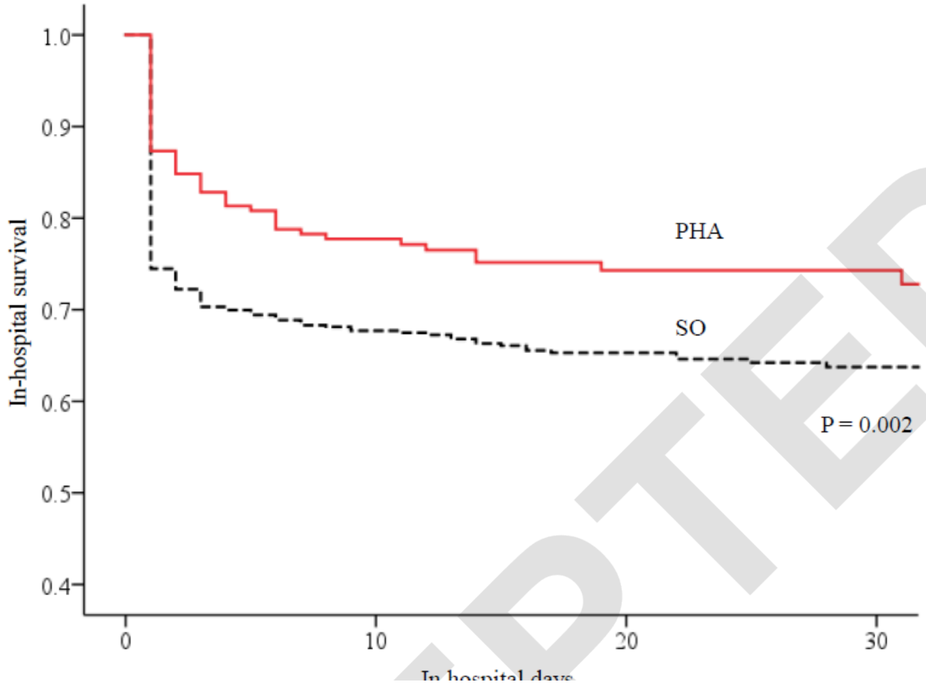
PERSISTE → Incorrecto

PERSISTE → Arterial

**Packing + Embolización**

# Embolización intraoperatoria

## Influence of postoperative hepatic angiography on mortality after laparotomy in Grade IV/V hepatic injuries



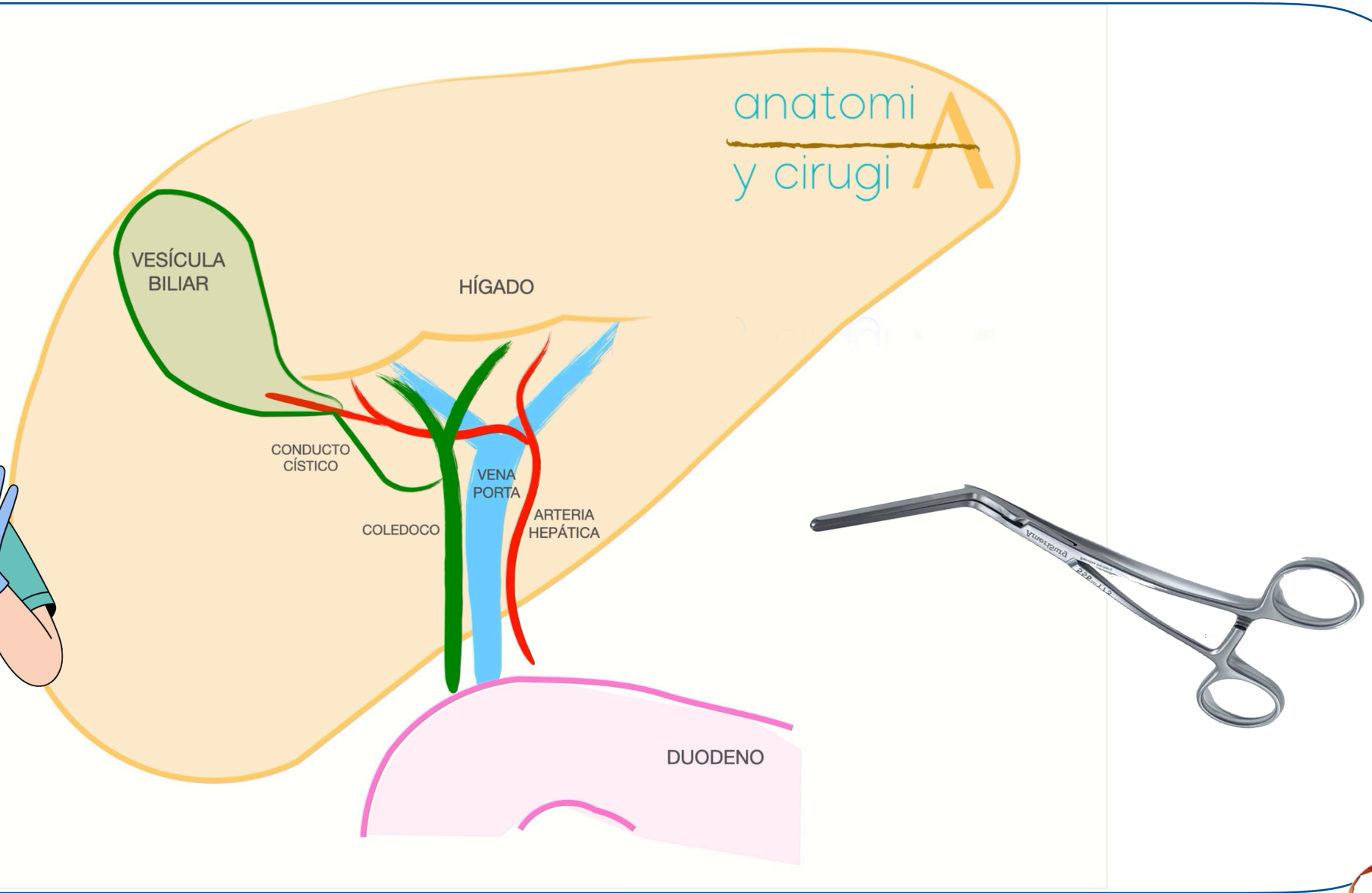

ADAPTED

✓ **Aumenta la sv (24,5% vs 35,9%):**

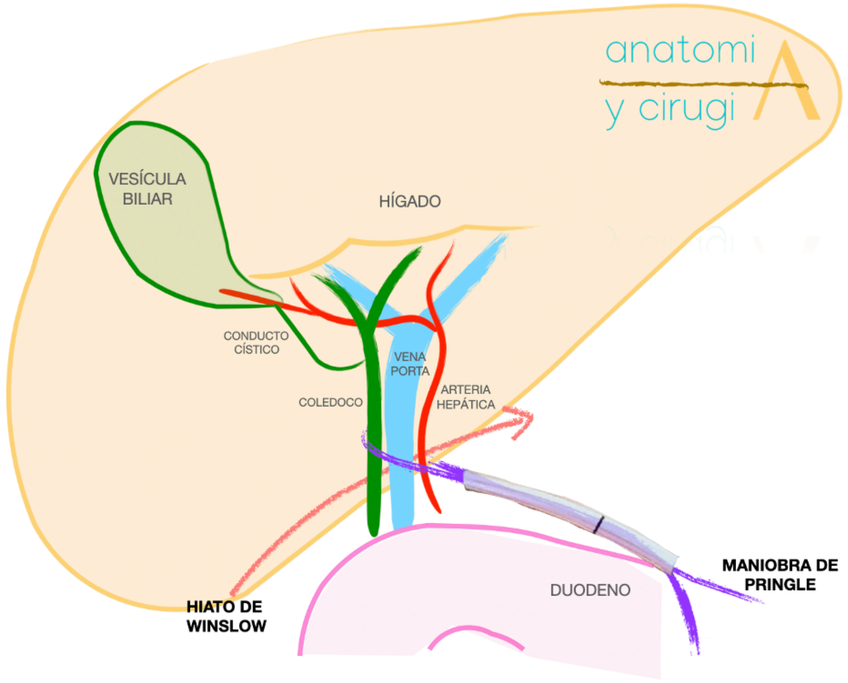
- Mayor estancia (16 vs 11 días).
- Mayor tasa de infecciones (8,2% vs 3,5%).

*Matsumoto S et al. J Trauma Acute CAre Surg, 2018*

# Maniobra de Pringle

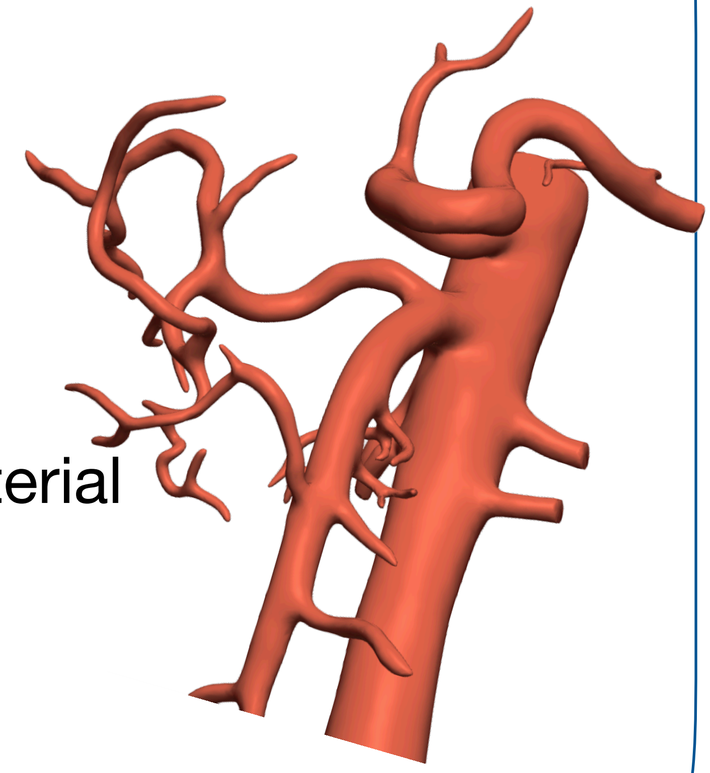


# Maniobra de Pringle

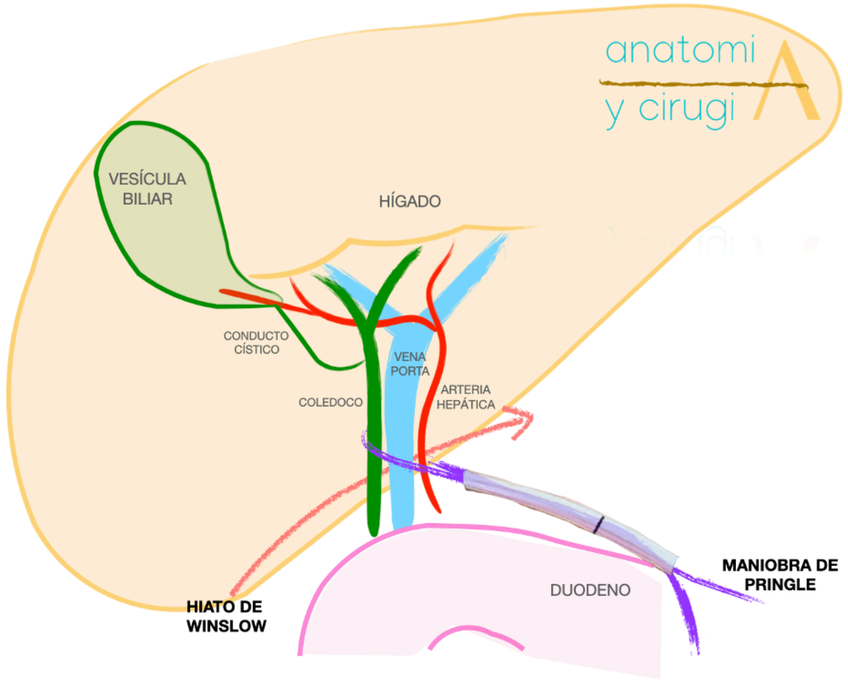



STOP

PERSISTE → Arterial

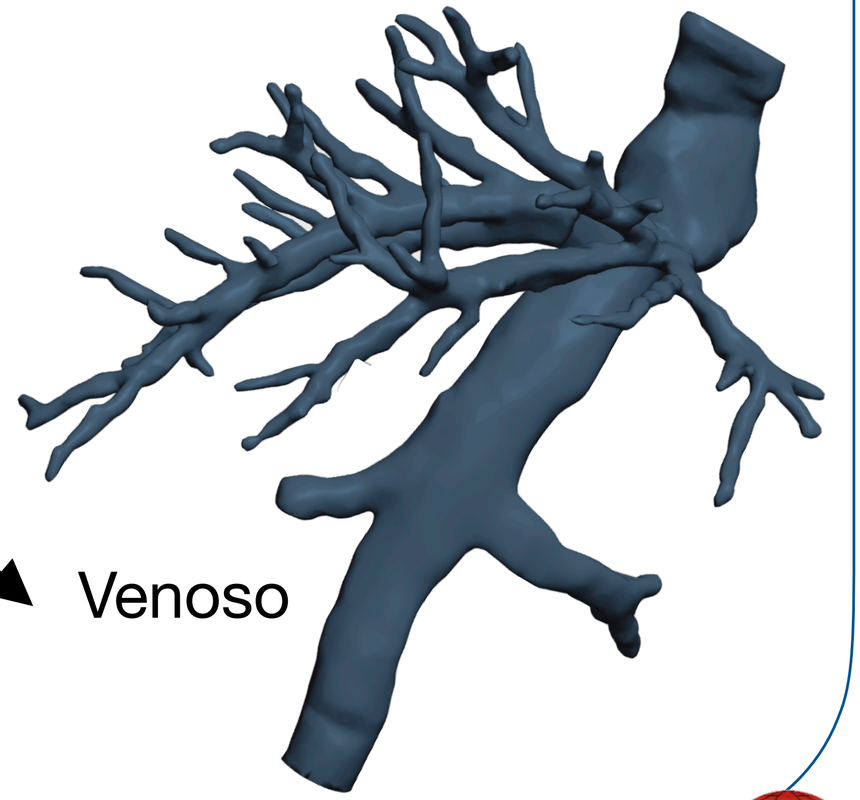


# Maniobra de Pringle



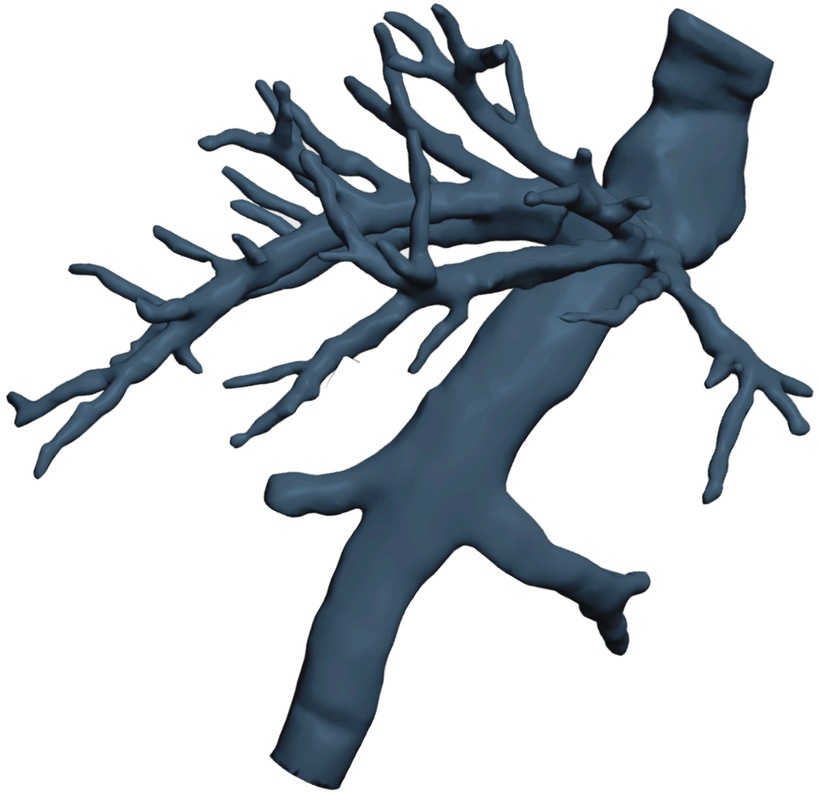

STOP

PERSISTE



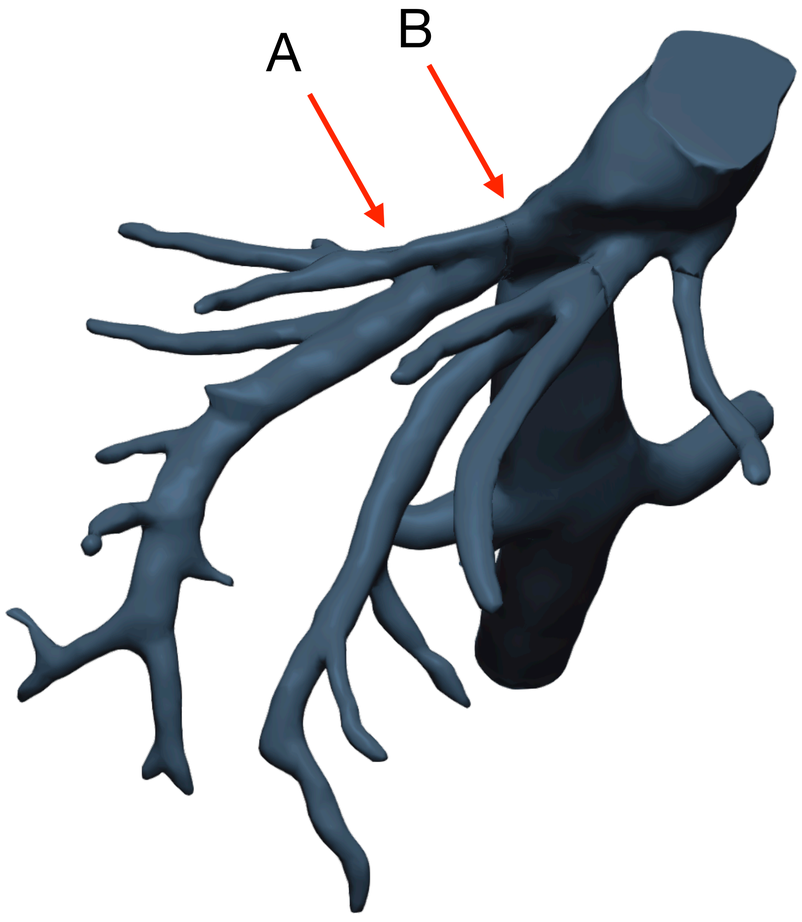
Venoso

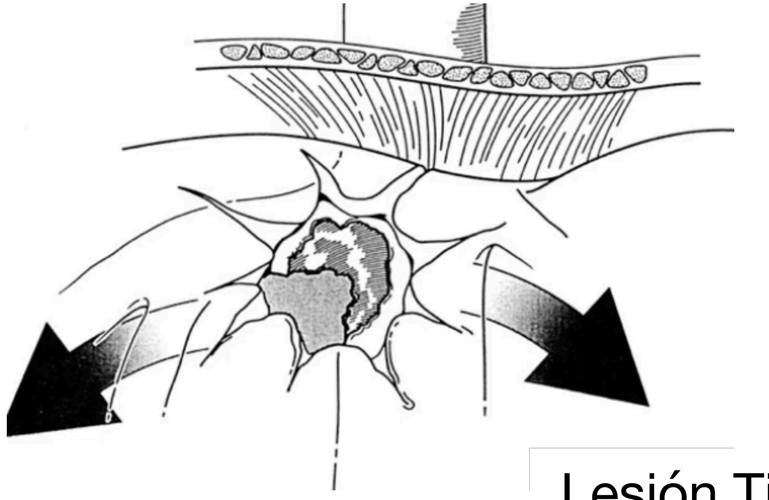
# Lesión venas suprahepáticas / cava retrohepática



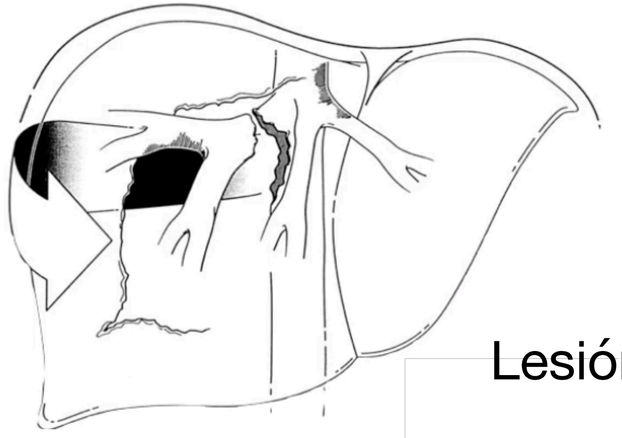
- Packing.
- Reparación directa con/sin exclusión hepática.
- Resección lobar.

# Lesión venas suprahepáticas / cava retrohepática



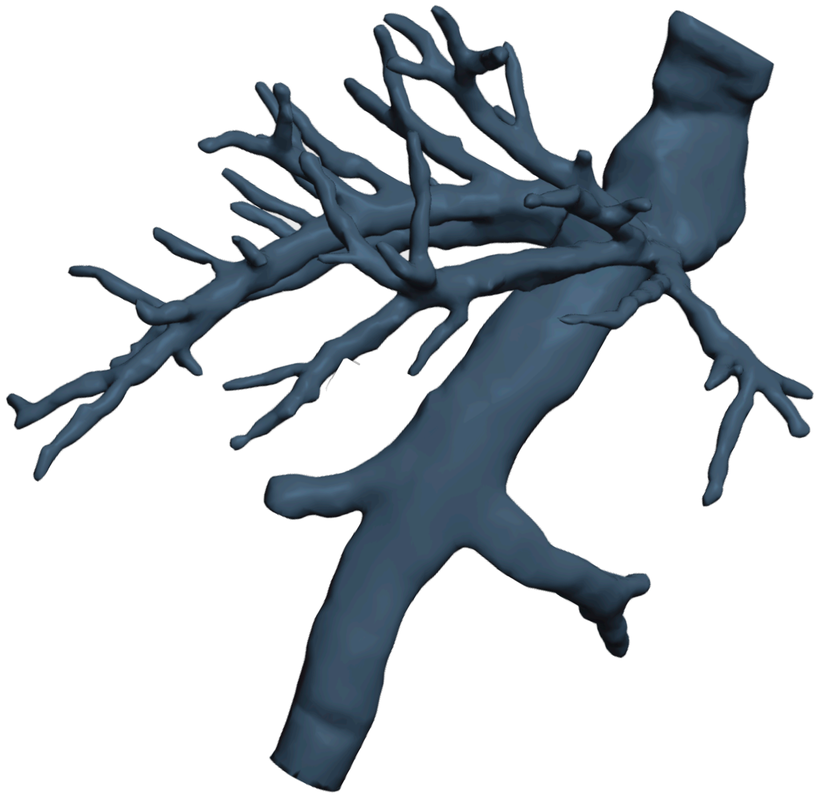
Lesión Tipo A

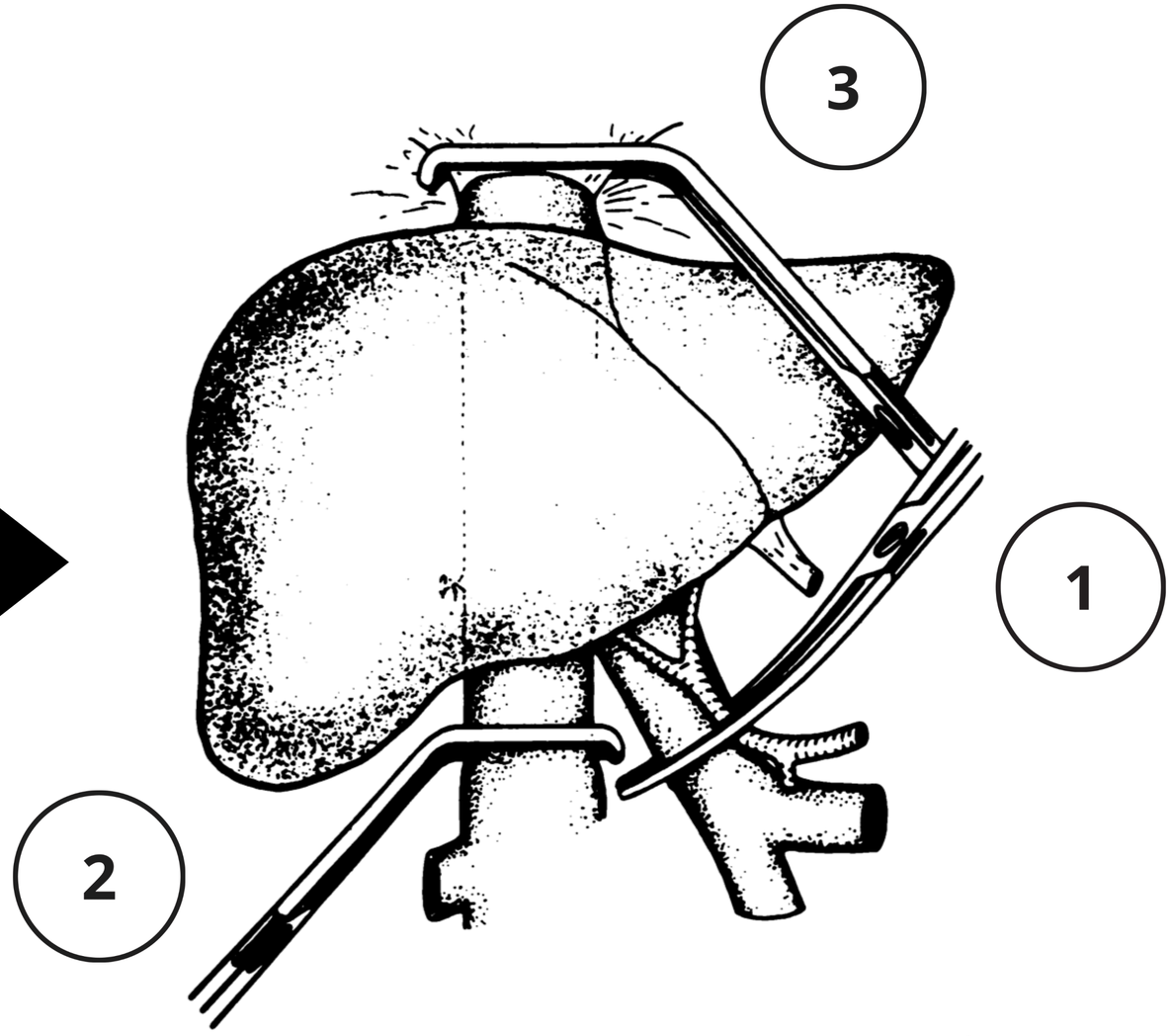


Lesión Tipo B

*Buckman RF et al. J Trauma, 2000*

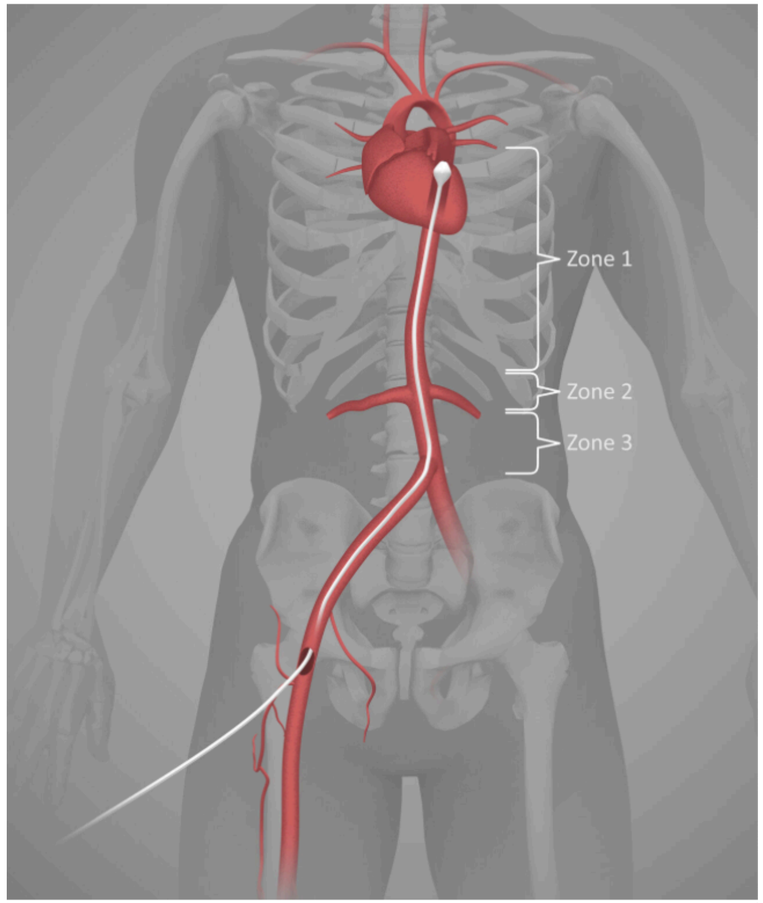
# Lesión venas suprahepáticas / cava retrohepática

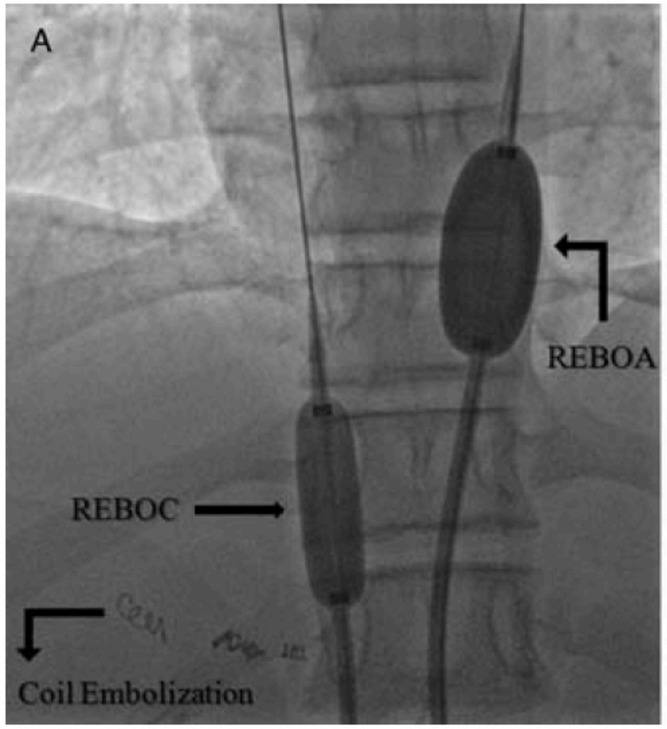





*Bismuth H et al. Ann Surg, 1989*

# Lesión venas suprahepáticas / cava retrohepática



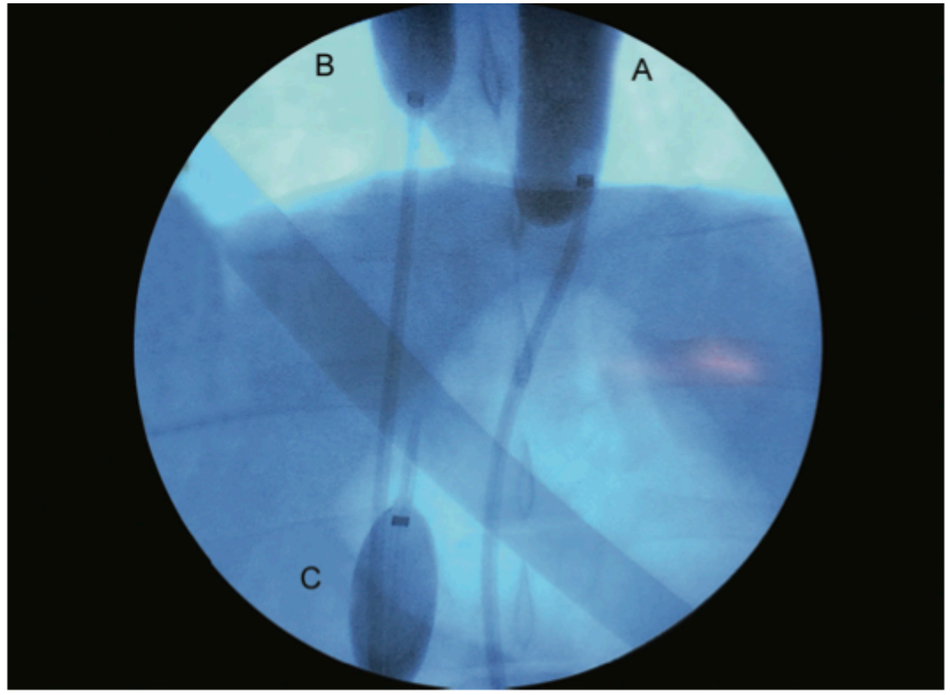



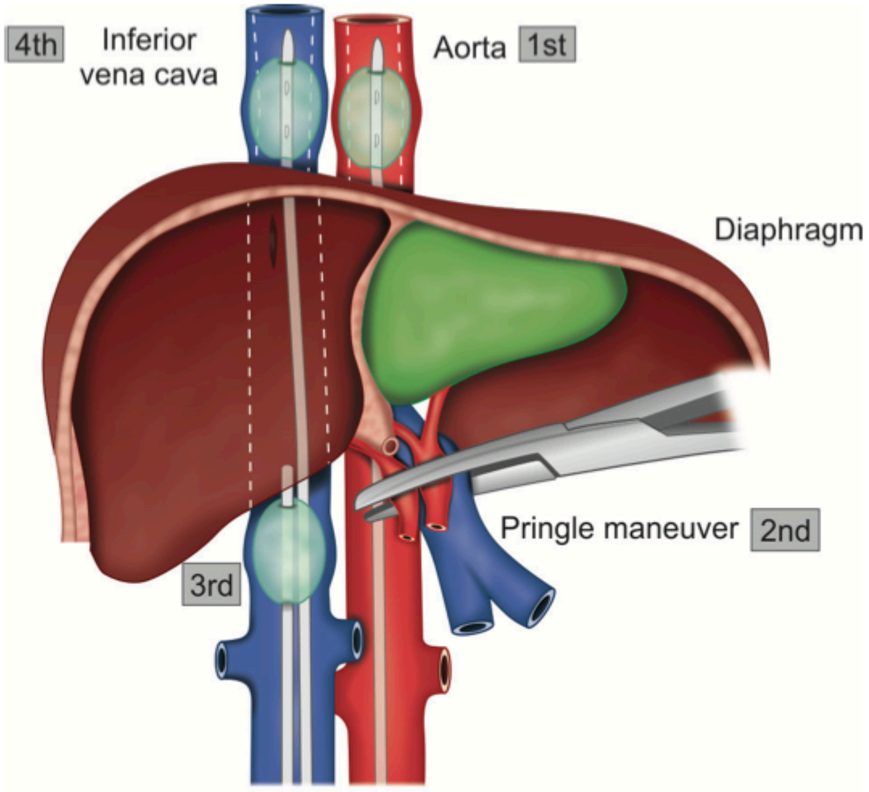
**REBOA:** ZONA 1 **REBOC:** VCI retrohepática

*Ordoñez CA et al. J Trauma Acute Care Surg, 2016*

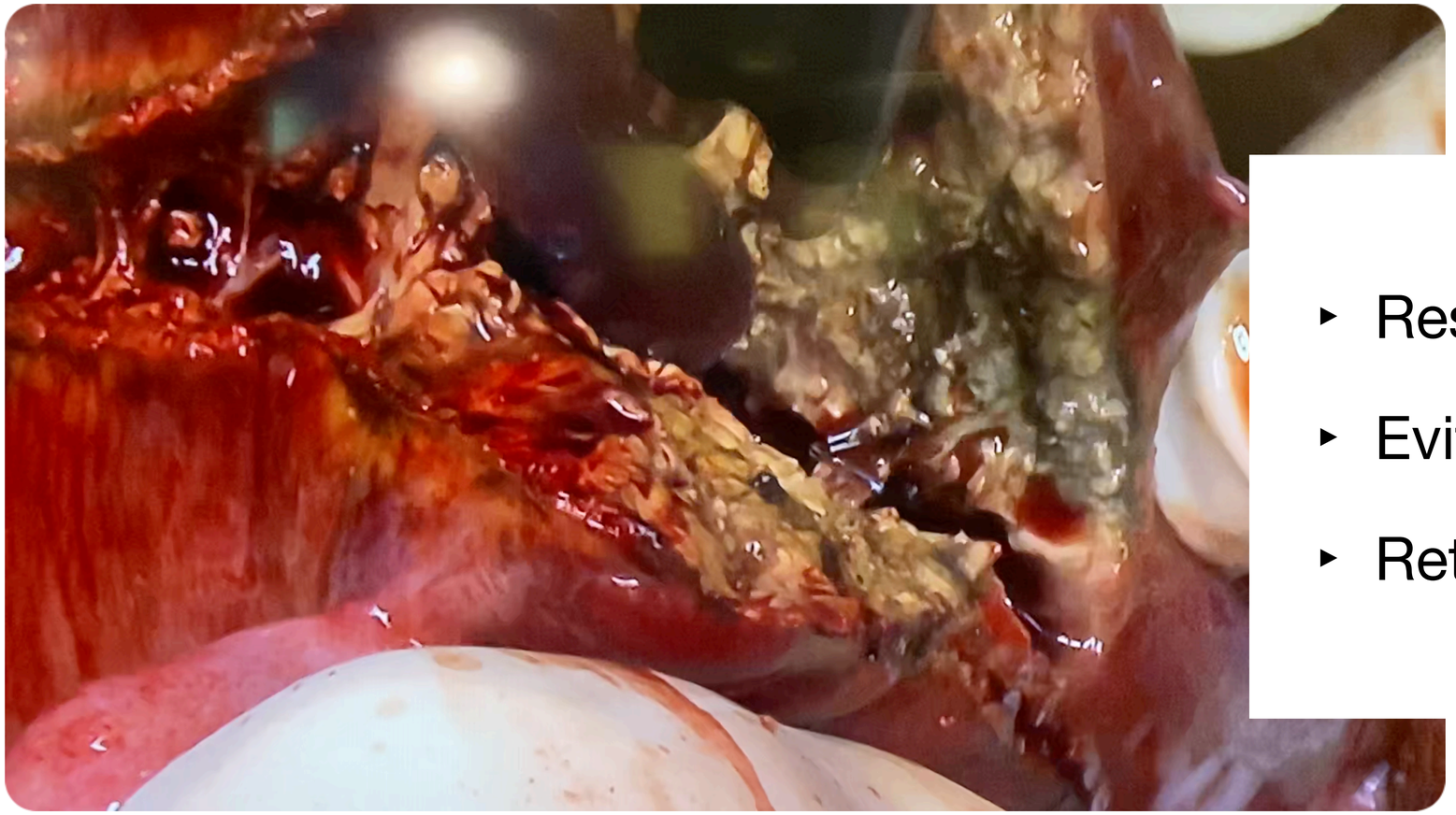
# RESEARCH ARTICLE

## Three Sequential Balloon Catheters for Vascular Exclusion of the Liver and Aortic Control (one REBOA and two REBOVCs): A Hemorrhage Control Strategy in Suprahepatic Vena Cava Injuries



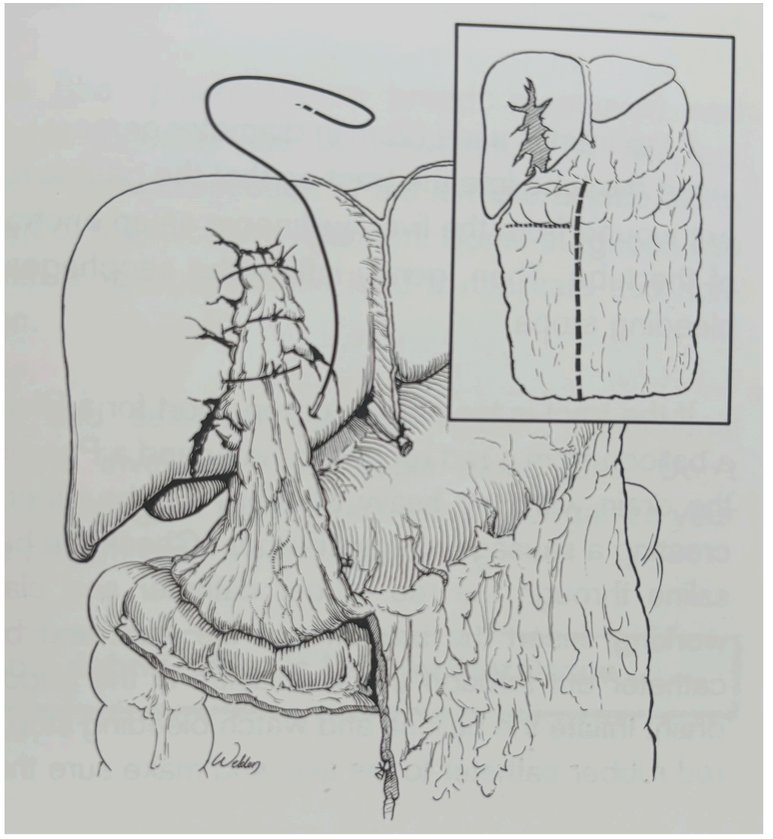



# Resección hepática

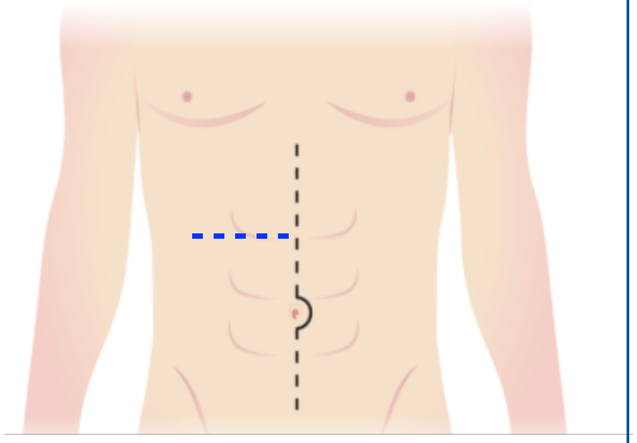


- Resecciones regladas.
- Evitar resecciones complejas.
- Retirar parénquima avulsionado.

# Otras ayudas



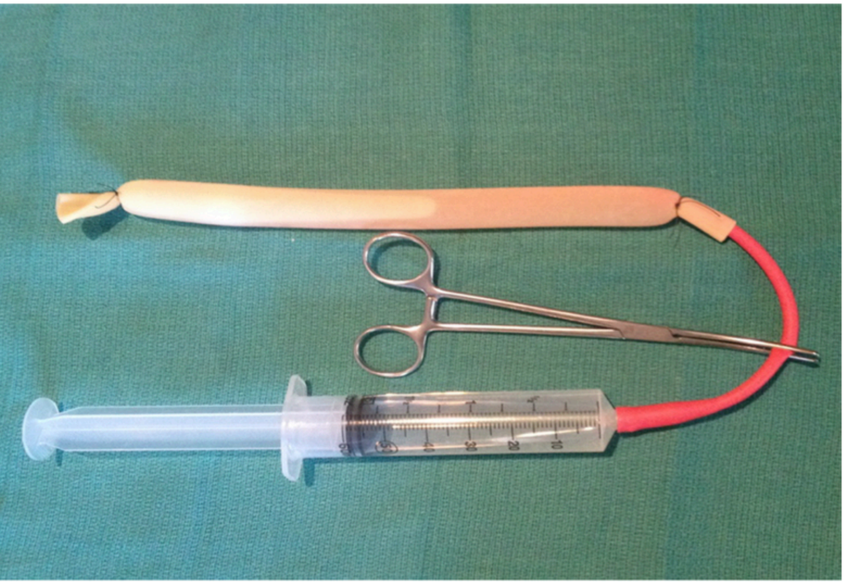
*Hirshbeerg and Mattox. Top Knife, 2005*

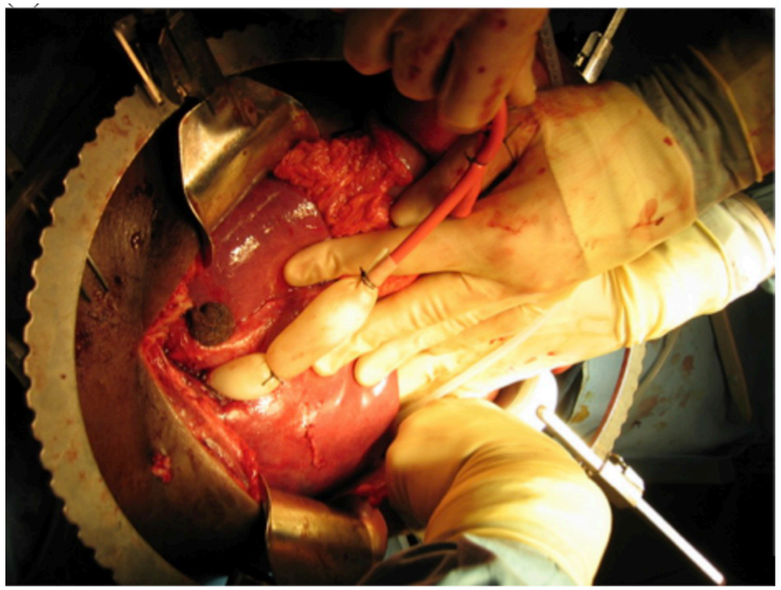


*Kodak LM et al. World Journal of Surgery, 2019*

# INNOVATIVE SURGICAL TECHNIQUES AROUND THE WORD

## Intrahepatic Balloon Tamponade for Penetrating Liver Injury: Rarely Needed but Highly Effective

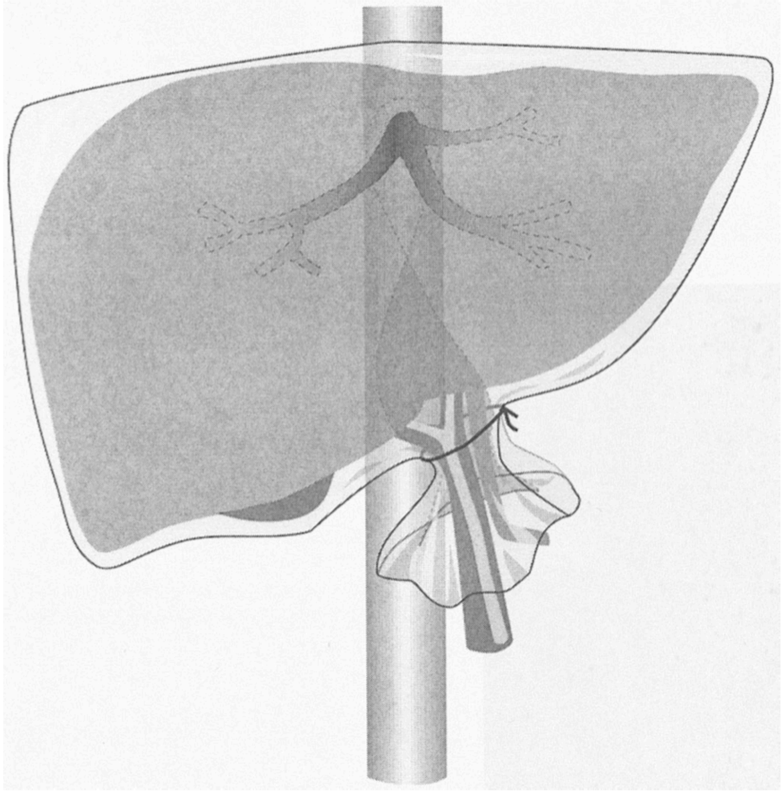


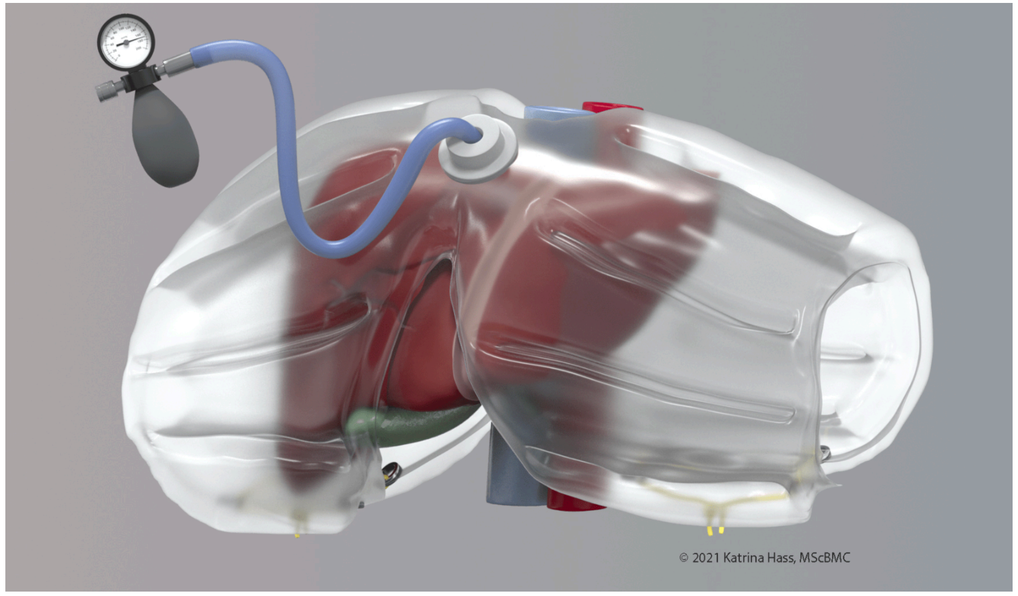


Sattler Set al. Journal of Trauma, 2004

# CASE REPORT

## The Liver Bag: Report of a New Technique for Treating Severe, Exsanguinating Hepatic Injuries






Rezende-Neto J  al. Injury, 2022

# Mortalidad

1. Sangrado NO controlado.
2. Fallo hepático (avulsión o isquemia).

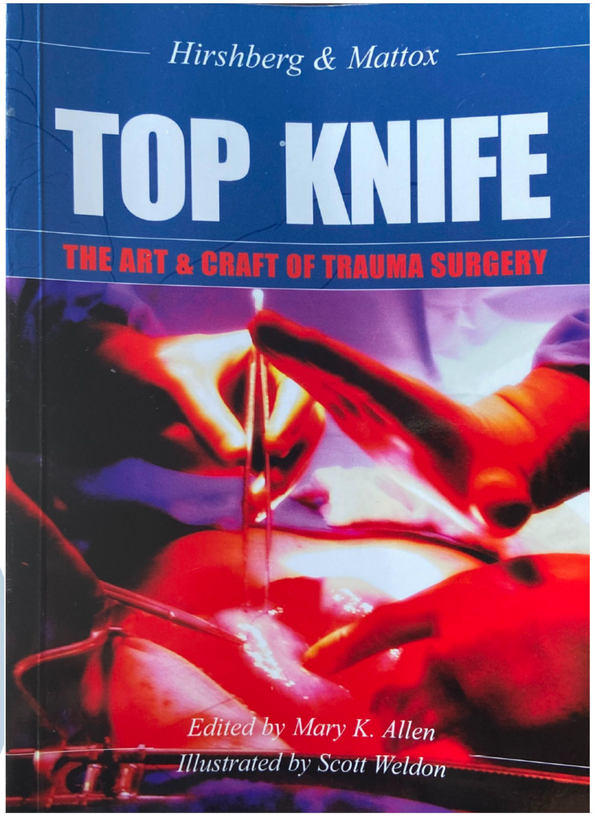
**50%**
Lesiones complejas

**65-100%**
Lesiones cava yuxtahepática

**20´**

**8-10 Unidades**

*“Ninja Master”*



# CONCLUSIONES

1. NOM en la mayoría de los casos.
2. El grado de lesión NO determina el tratamiento.
3. Manejo multidisciplinar.
4. No perder el foco: DETENER EL SANGRADO.
5. Trauma hepático = Cirugía Control de Daños.

# CURSO DE ACTUALIZACIÓN HPB 2026

Directores del Curso:

- Dr. Guido Parquet Villagra
- Dra. Rosa Sánchez Alvarenga

Modalidad Virtual

Carga horaria: 16hs

**DOCENTES:**

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Dr. Dennis Cabral
Dr. Félix Ibieta Galarza
Dr. Alejandro Tonina
Dr. Daniel Andrada
Dra. Cinthia Gauna
Dr. Alvaro Piazze
Dr. Germán Sánchez Morales
Dr. Elías Gianni
Dr. Marcos Uffelmann
Dra. Marina Garcés
Dr. Alejandro Sotomayor
Dr. José Herrera
Dr. Francisco Suárez Anzorena
Dr. Jorge Isaguirre

**INFORMES AL +595 974 55 77 97**

**Fechas:**

- Jueves 9 de abril - (19 a 21hs)
- Jueves 16 de abril - (19 a 21hs)
- Jueves 23 de abril - (19 a 21hs)
- Miércoles 29 de abril - (19 a 21hs)

**Inversión:**

- Socios al Dia HPB y SOPACI: 500 000 Gs
- Residentes: 300 000 Gs
- No socios: 1 000 000 Gs

DEPARTAMENT DE SALUT DE VALÈNCIA
CLÍNIC-LA MALVA-ROSA

**Marina Garcés Albir**

**Unidad HBP. Servicio de Cirugía General y del Aparto Digestivo.**
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marinagarcesalbir@gmail.com

VNIVERSITAT DE VALÈNCIA