



Novelties in PVT with cirrhosis

Pierre-Emmanuel RAUTOU

Inserm U1149, Centre de recherche sur l'inflammation, Paris

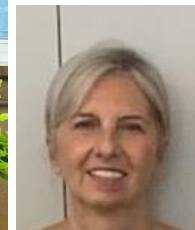
Service d'hépatologie, Hôpital Beaujon, Clichy, France

pierre-emmanuel.rautou@inserm.fr

EASL CPG panel



Valérie Mc Lin
Virginia Hernandez-Gea



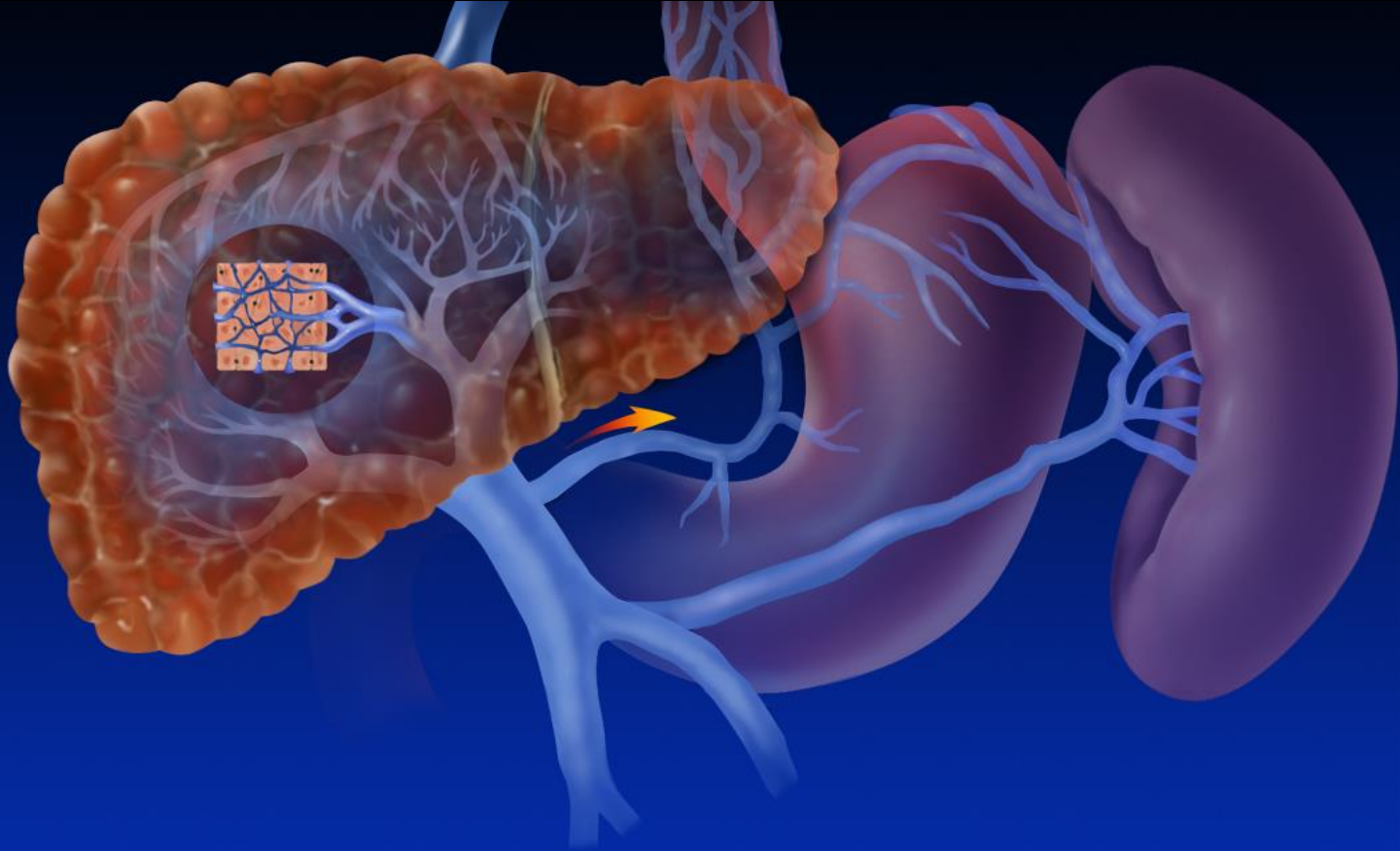
Dhiraj Tripathi
Pierre-E. Rautou



Lucile Moga
Sarwa Darwish-Murad
Juan-C. Garcia-Pagan

Walter Ageno
Maria Guido
Valérie Vilgrain

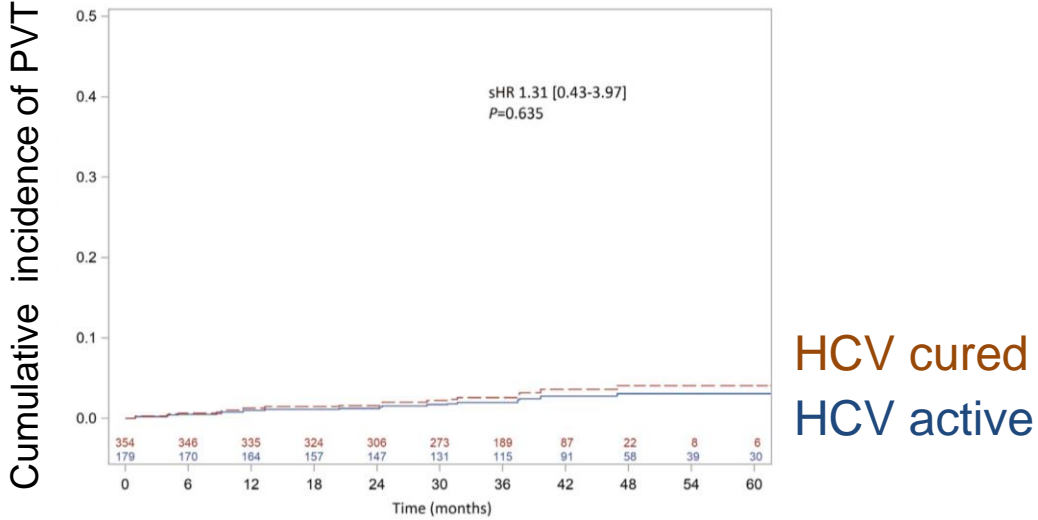
Patients with cirrhosis without PVT



Does the cause of cirrhosis and its treatment influence the development of portal vein thrombosis?

- “MASLD may be associated with an increased risk of development of PVT”
- “HCV eradication does not influence the development of PVT”

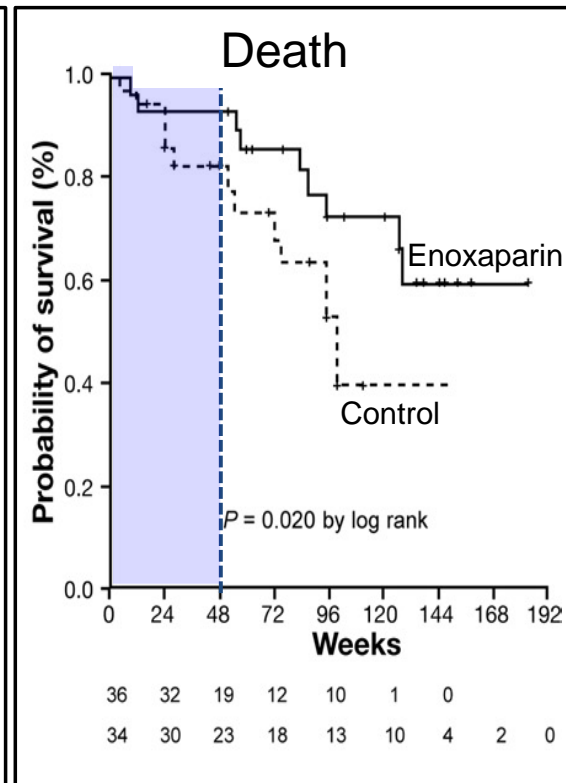
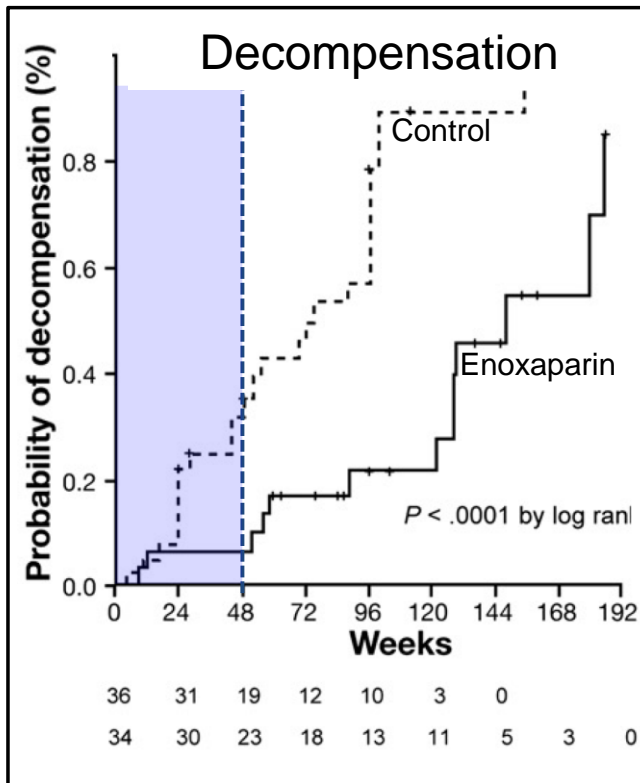
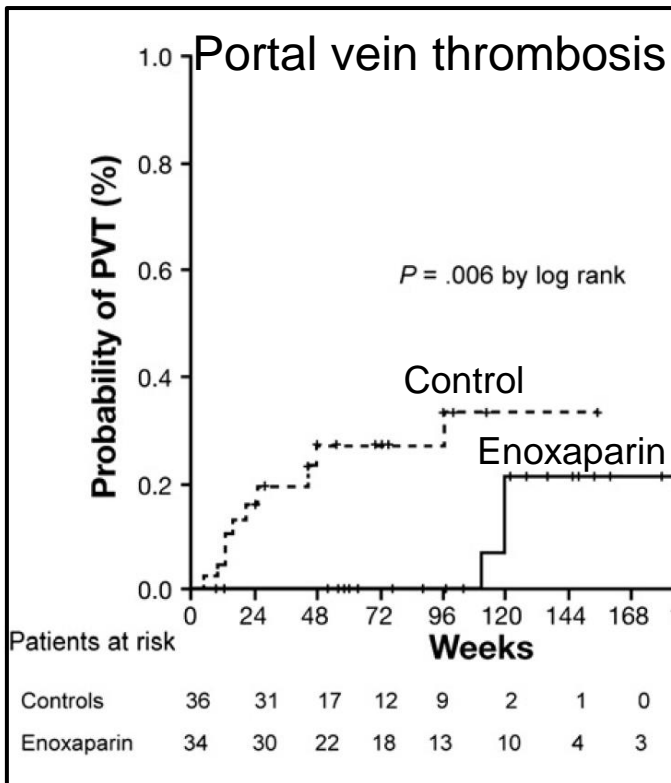
EASL guidelines 2025



Cirrhosis: anticoagulation to reduce mortality?

“In patients with Child-Pugh B and C cirrhosis without PVT, anticoagulation may reduce morbidity and mortality”

Anticoagulants in cirrhosis improve outcome



Anticoagulants in cirrhosis improve outcome

Cirrhosis Child-Pugh B7-C10

Placebo

Scheduled: n=80

ITT: n=49

PP: n=41

Rivaroxaban 10 mg/d

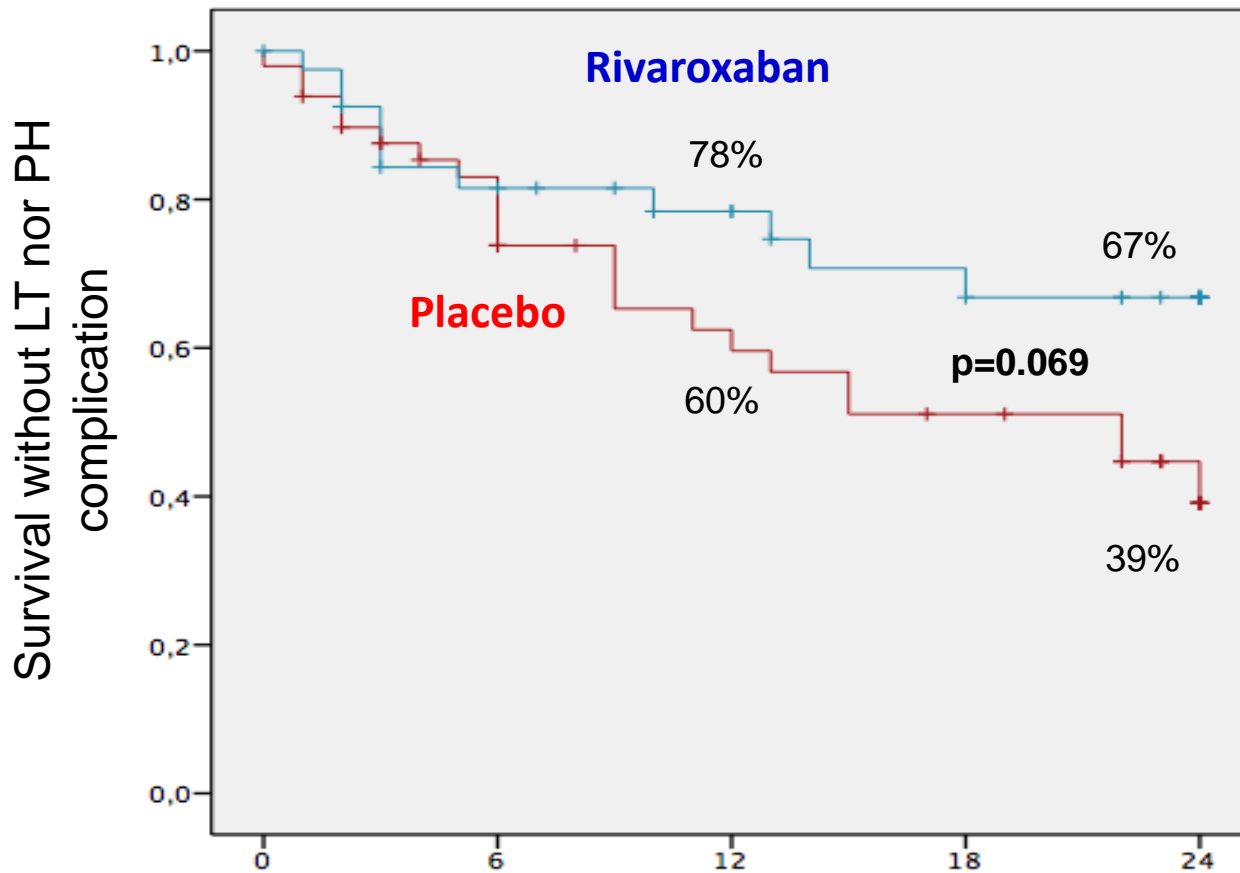
Scheduled: n=80

ITT: n=41

PP: n=37

Survival without liver transplantation nor portal hypertension complication at 2 yrs

CIRROXABAN: ITT analysis



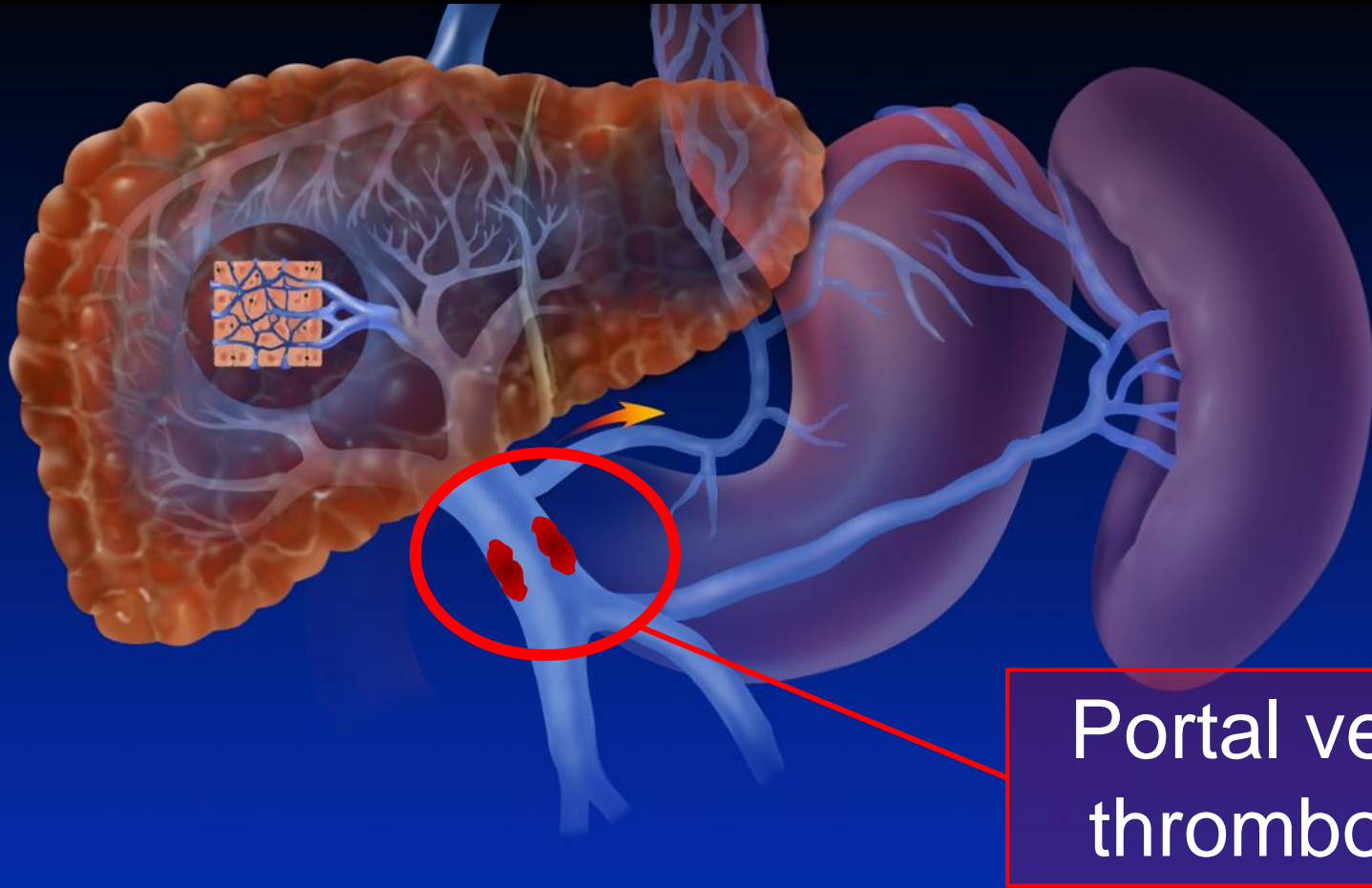
p=0.038 after adjustment
on :

- Child-Pugh
- History of decompensation
- NSBB

Major bleeding:
p=0.77




Months

Patients with cirrhosis with PVT



Portal vein
thrombosis

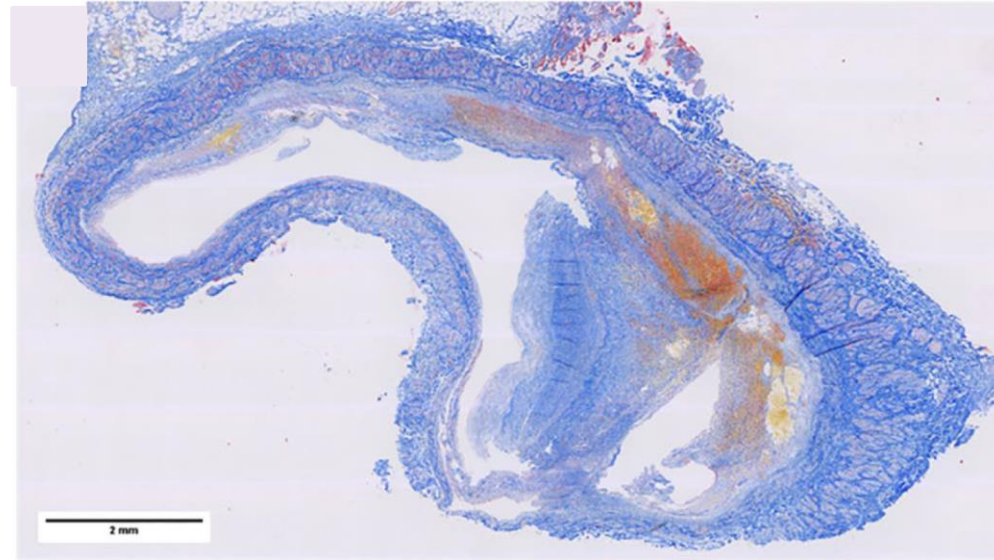
When should a liver biopsy be performed in PVT?

	Normal liver	PSVD or cirrhosis	Cirrhosis
Risk factor	None	For PSVD or cirrhosis	Cause of cirrhosis
Liver blood tests	Normal	Abnormal	Abnormal
CT-scan	Smooth surface \geq normal seg ^{nt} . IV	Abnormal morphology	Nodular surface Seg ^{nt} . IV atrophy
Liver stiffness	< 8 kPa (≈ 5 kPa)	8-20 kPa	> 20 kPa
	 No liver biopsy	 Liver biopsy	 No liver biopsy

Portal vein thrombosis in patients with cirrhosis



1/3



2/3

PVT and cirrhosis: is anticoagulation recommended?

screening / 6 mo

Potential
candidate for LT



PVT

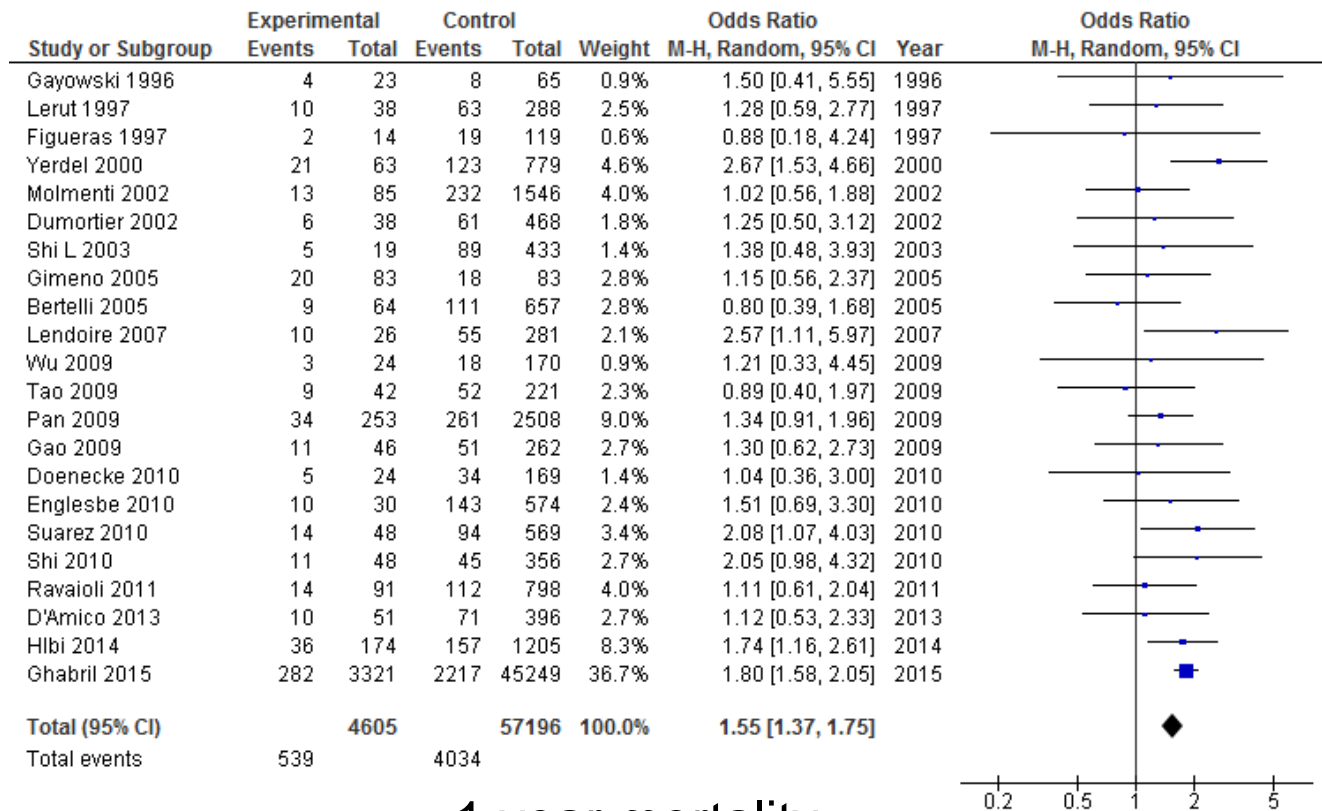
(whatever extension)



Anticoagulation

“to improve feasibility and outcome of liver transplantation”

PVT is associated with worse post-LT outcome



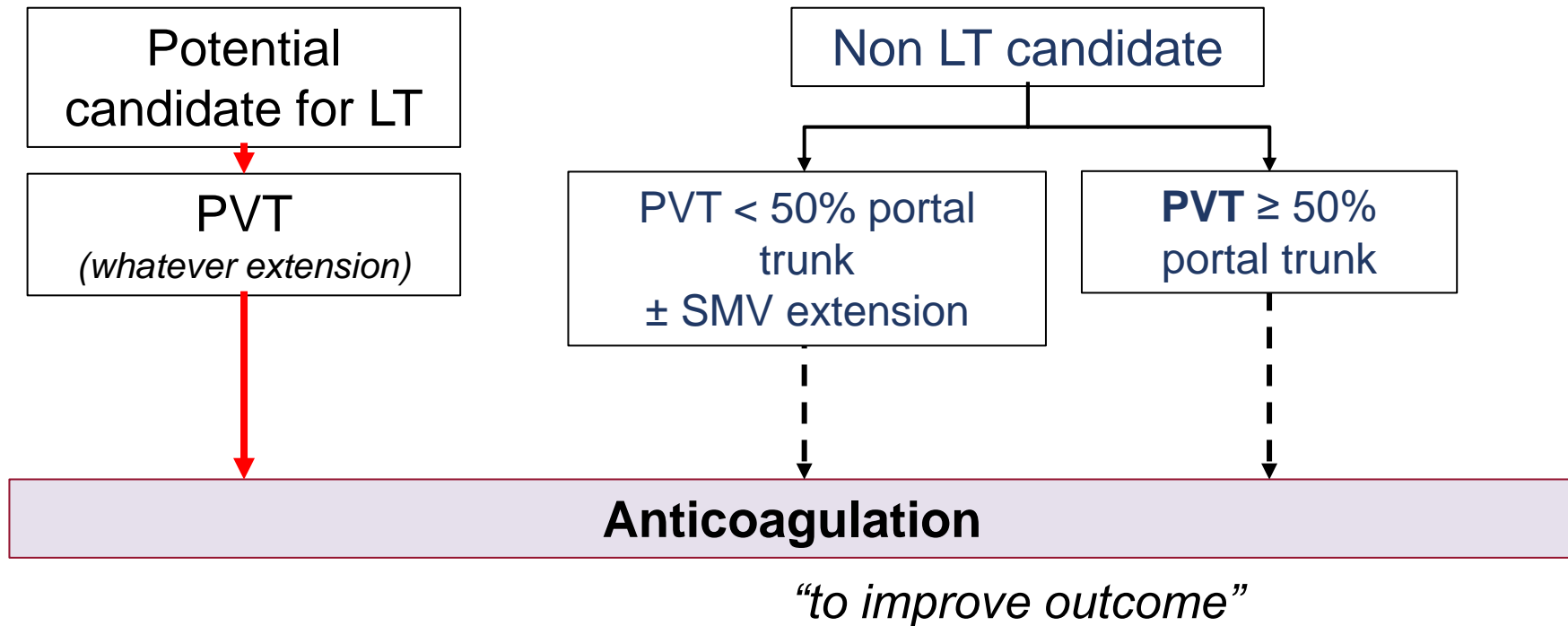
1 year mortality

No PVT PVT

Goal of anticoagulation:
facilitate adequate portal
anastomosis

PVT and cirrhosis: is anticoagulation recommended?

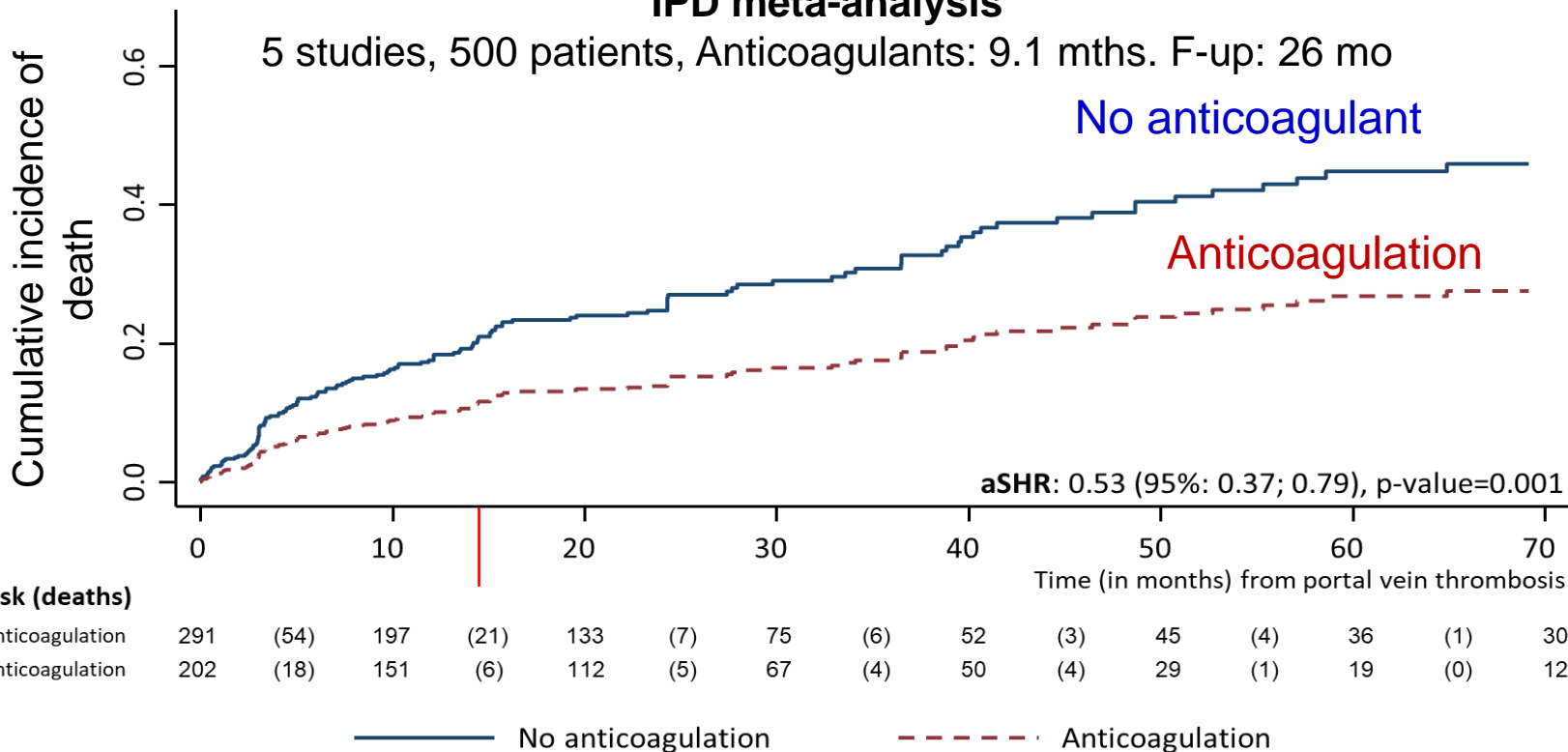
screening / 6 mo



Anticoagulants in cirrhosis improve outcome

IPD meta-analysis

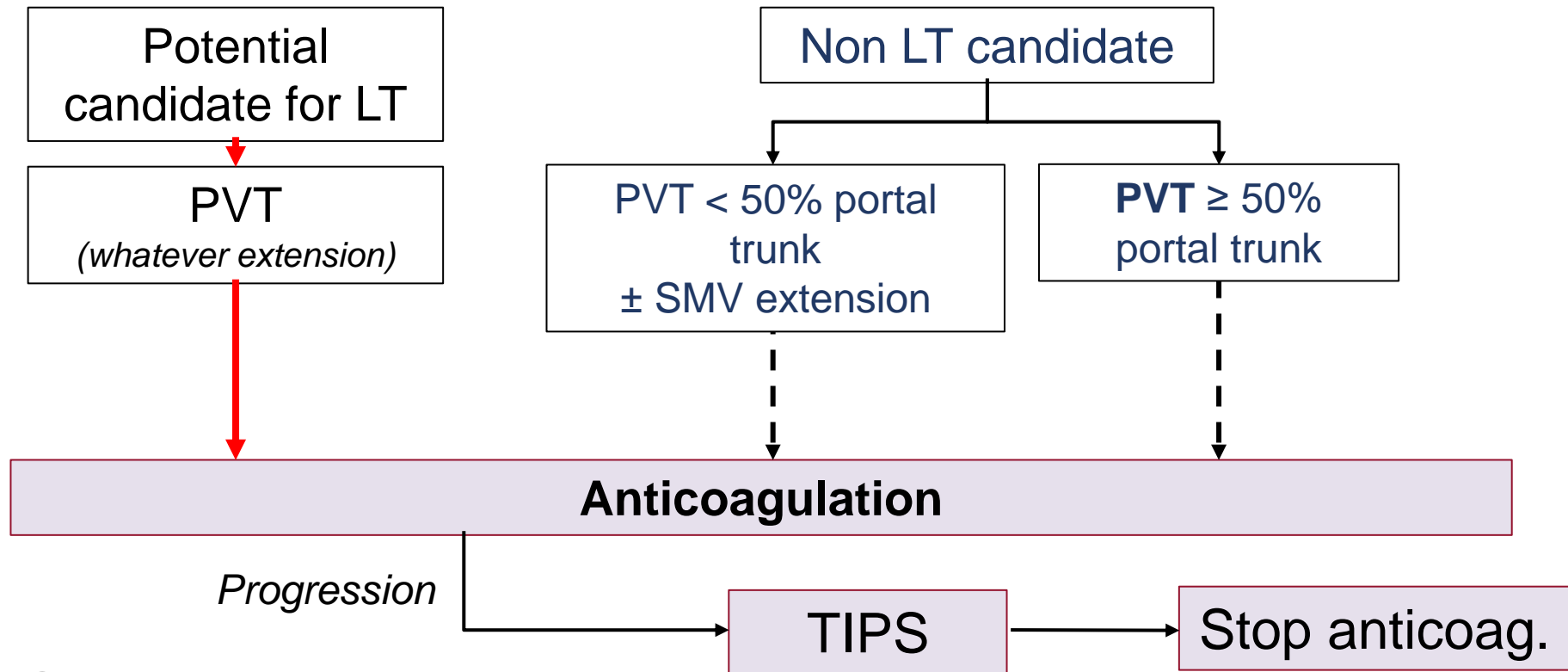
5 studies, 500 patients, Anticoagulants: 9.1 mths. F-up: 26 mo



Sub-hazard ratio adjusted (aSHR) by age at diagnosis, etiology, Child, thrombosis extension and localization and variceal prophylaxis
 Competing risk model with LT

PVT and cirrhosis: is anticoagulation recommended?

screening / 6 mo

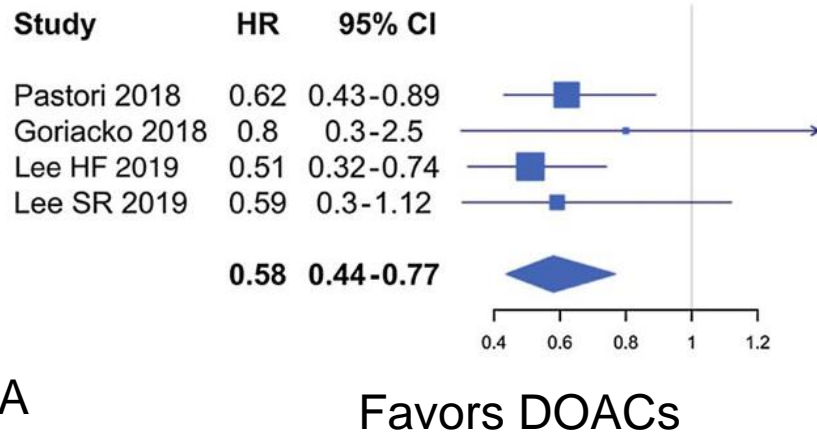
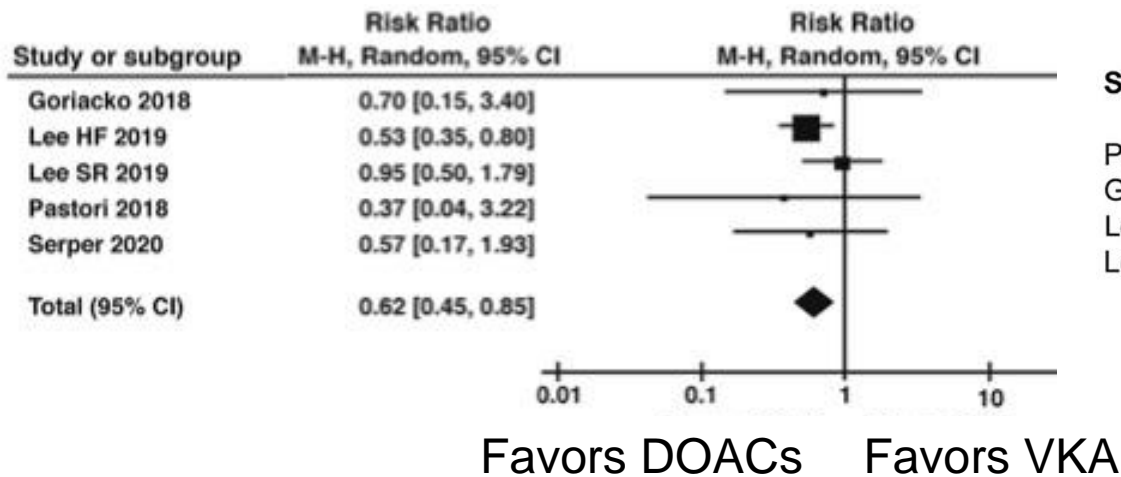


Portal vein thrombosis with cirrhosis

- **Work-up for risk factors for thrombosis:** not recommended
- **Type of anticoagulant:**
 - ✓ Child-Pugh A or B: DOACs can be recommended
 - ✓ Child Pugh C: DOACs not recommended

VKA vs. DOACs in patients with cirrhosis and atrial fibrillation

Major bleeding events

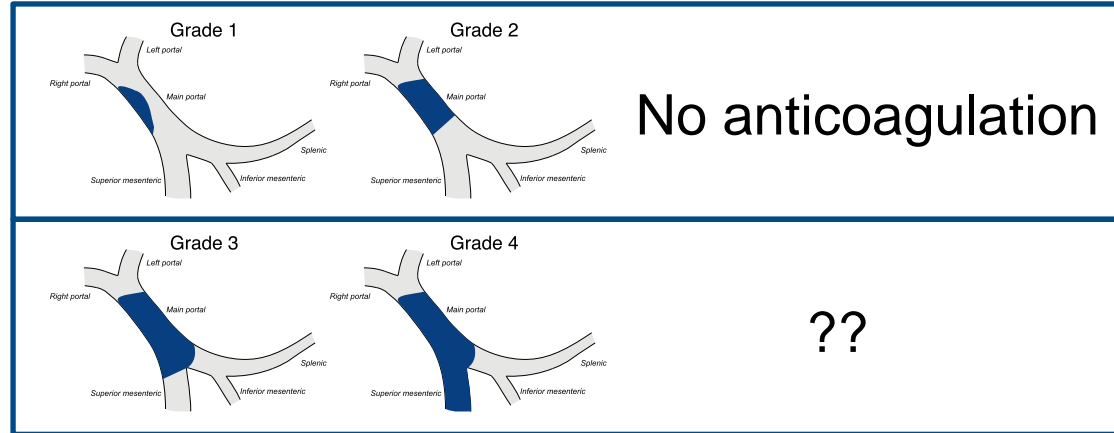


VKA vs. DOACs in patients with cirrhosis and PVT

References	Number of patients	Bleeding risk	Recanalization
Koh <i>et al.</i> 2022	N=551	DOAC = VKA	DOAC > VKA
Chen <i>et al.</i>	N= 3479	DOAC = VKA	DOACs > traditional anticoagulants
Ng <i>et al.</i> Hepatology Int 2021	N=527	DOAC = VKA	DOACs > LMWH > VKA
Mohan <i>et al.</i> Ann Gastr 2020	N=648	DOAC = VKA	DOACs > VKA > LMWH > no treatment
Valeriani <i>et al.</i> Thromb H. 2021	N=1475		Anticoagulation > no treatment

Portal vein thrombosis with cirrhosis

- **Work-up for risk factors for thrombosis:** not recommended
- **Type of anticoagulant:**
 - ✓ Child-Pugh A or B: DOACs can be recommended
 - ✓ Child Pugh C : DOACs not recommended
- **Anticoagulant after LT:**



Conclusion : PVT with cirrhosis

- **Work-up for risk factors for thrombosis:** not recommended
- **Anticoagulation:**
 - ✓ Recommended if potential transplant candidate
 - ✓ Possible if not potential transplant candidate

Delphi Panel members

Maria	Magnusson	Sweden
Andrea	De Gottardi	Switzerland
Laure	Elkrief	France
Ton	Lisman	NL
Aurélie	Plessier	France
Bogdan	Procopet	Rumania
Lara	Roberts	UK
Shiv	Sarin	India
Marco	Senzolo	Italy
Luis	Tellez	Spain
Dominique	Valla	France
Erica	Villa	Italy
Annalisa	Berzigotti	Switzerland
Alba	Diaz	Spain
Angeles	Garcia-Criado	Spain
Guadalupe	Garcia-Tsao	USA

Elba	Llop	Spain
Jean-Jacques	Kiladjian	France
Filipe	Nery	Portugal
Valérie	Paradis	France
Michael	Praktiknjo	Germany
Cristina	Ripoll	Germany
Filipe	Caseiro-Alves	Portugal
Bernhard	Scheiner	Austria
Ben	Shneider	USA
Constantino	Fondevila	Spain
Mária	Papp	Hungary
Olga	Tronina	Poland
Meral	Akdogan	Turkey
Sophie	Hullin	France
Javier	Argiles	Spain

Networks for vascular liver diseases



European
Reference
Network

Hepatological Diseases
(ERN RARE-LIVER)



VALDIG

VASCULAR LIVER DISEASE GROUP



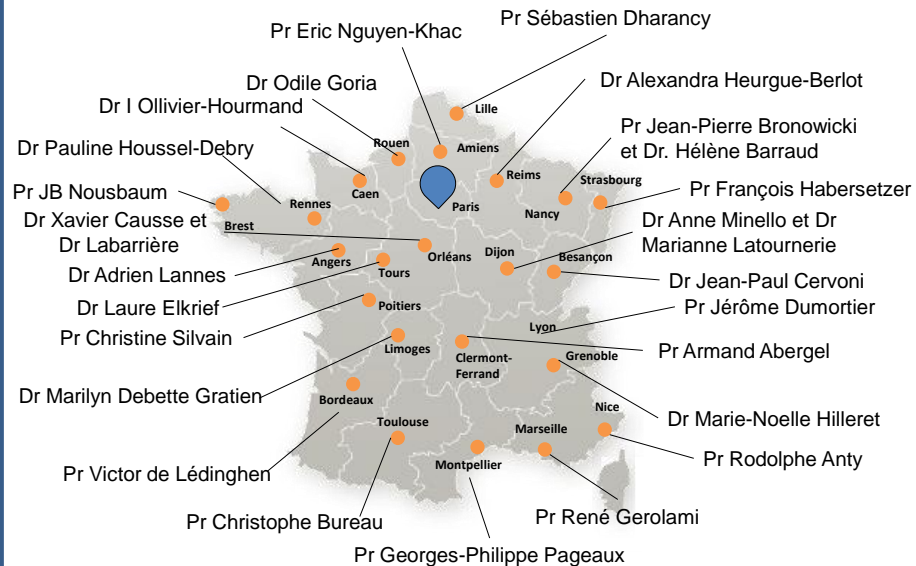
French network for vascular liver diseases



CENTRE DE RÉFÉRENCE
MALADIES VASCULAIRES
DU FOIE



Centre de compétence maladies vasculaires du foie



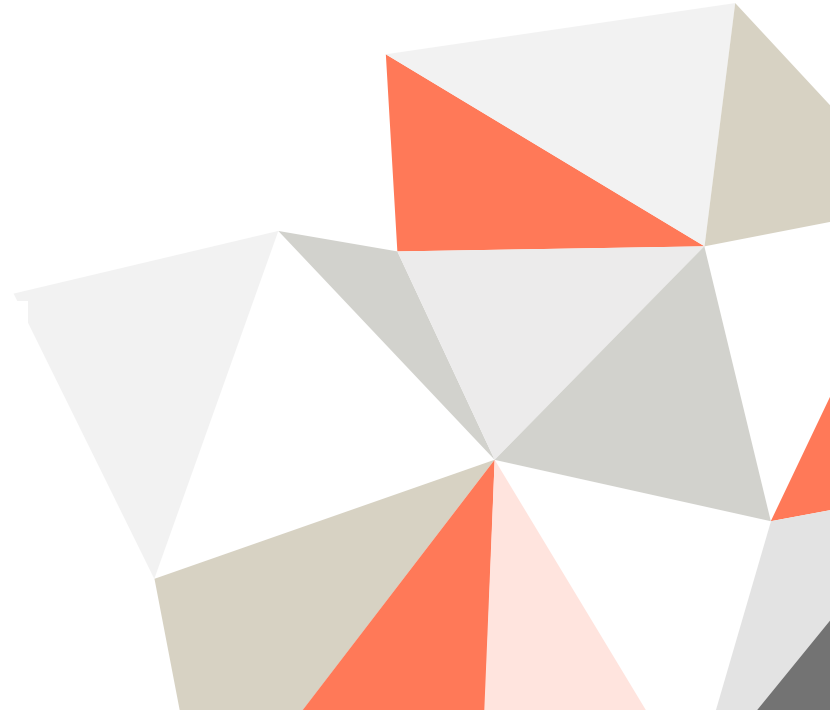
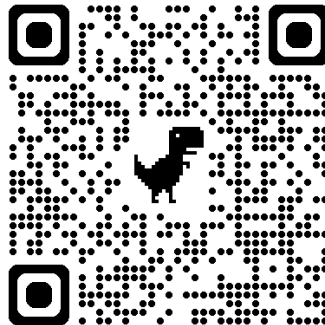
crmvf.foie@bjn.aphp.fr

European vascular liver diseases network

EURO-VALDI-NET

Start Date: 01/11/2024

End Date: 01/11/2028





Instituts
thématiques



Inserm

Institut national
de la santé et de la recherche médicale



Université Paris Cité

CRi
CENTRE de RECHERCHE
sur l'INFLAMMATION



Hepatology unit, Beaujon Hospital
Reference center for vascular liver diseases



Inserm U1149 www.rautoulab.com/
Team "vessels in liver diseases"



Get these slides there:



Les Programmes Hospitaliers
de Recherche Clinique
(PHRC)

