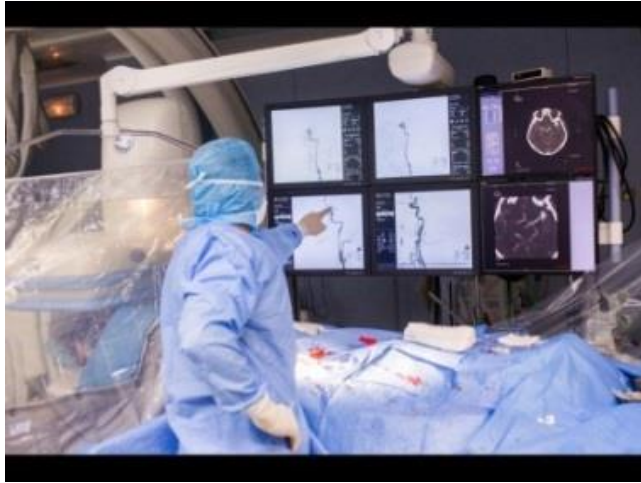
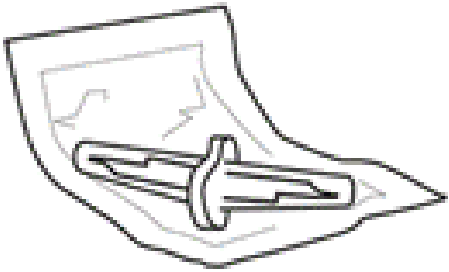




# **ALLO LE CAILLOT, QUOI DE NEUF ?**

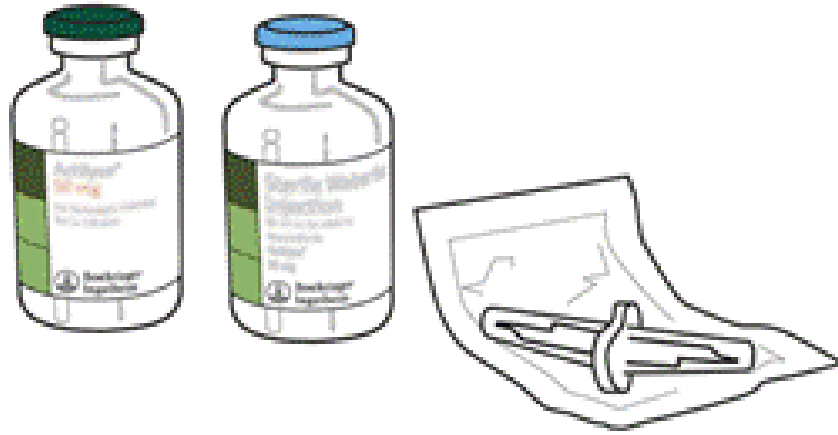
Perrine Boursin, IPA  
Hôpital Fondation A. de Rothschild Paris

Lille, le 16 novembre 2023



**Et après ?**

# La fibrinolyse



## Actilyse®

Activateur tissulaire du plasminogène

**x1000 concentration sanguine physiologique**

Et maintenant Metalyse®



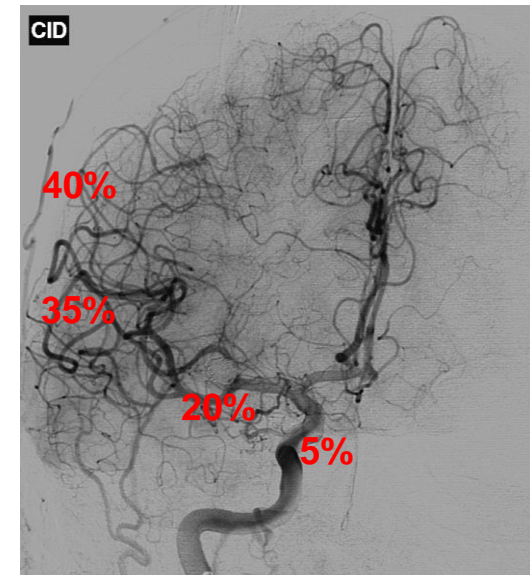
## Limites ?

Fenêtre thérapeutique

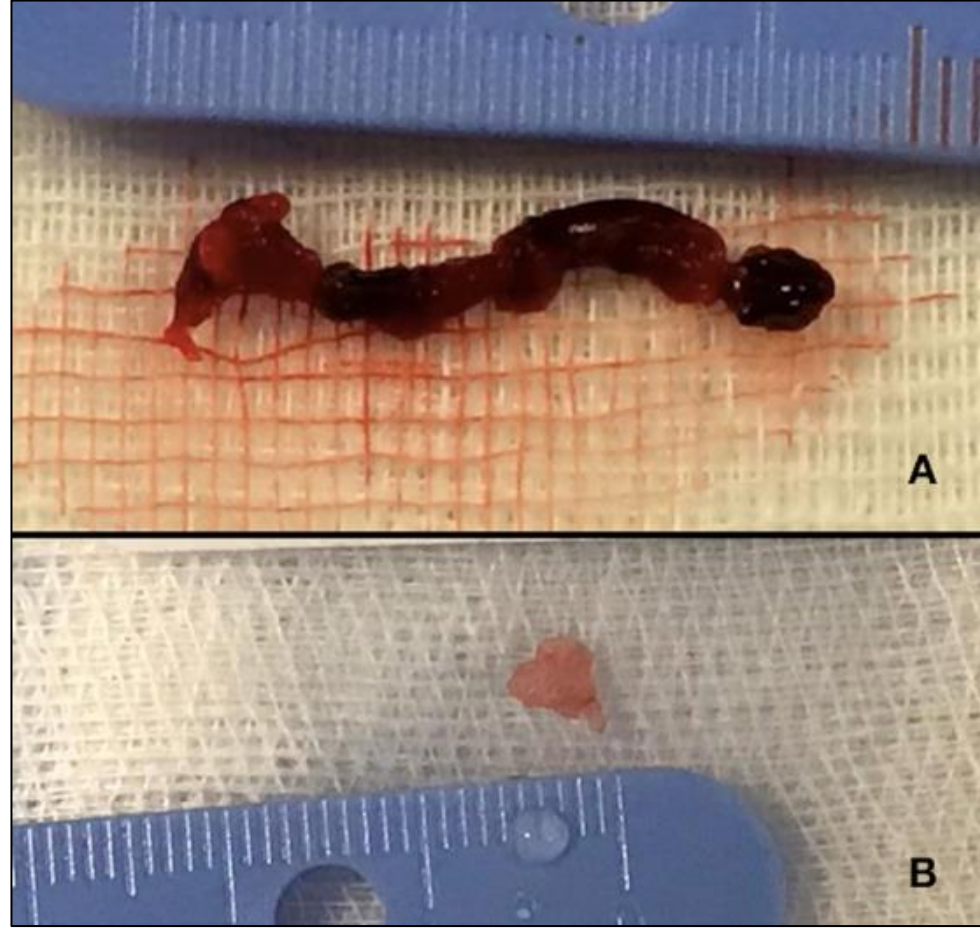
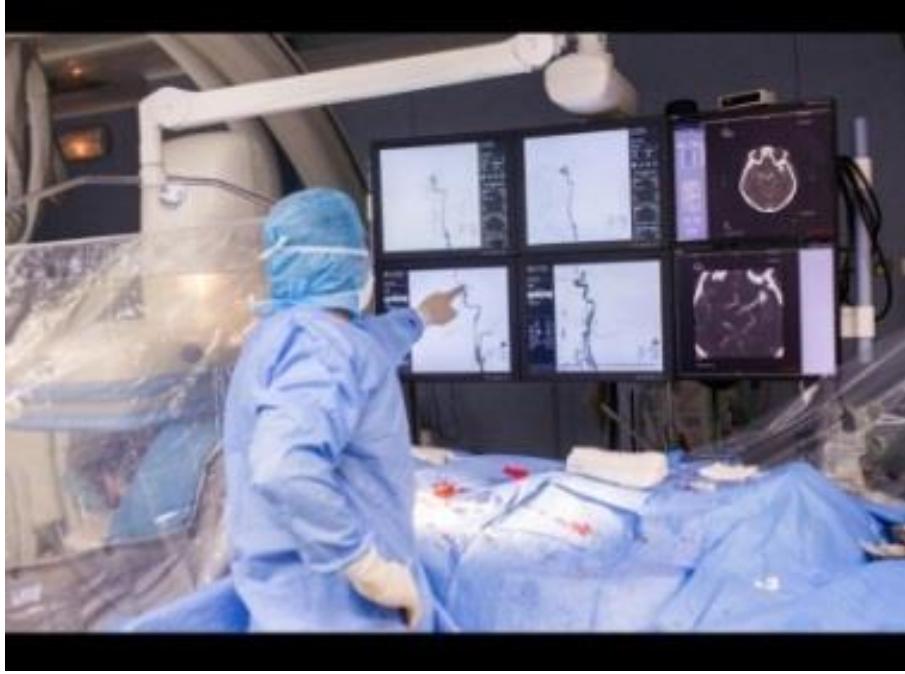
Contre-indications

5 à 10% patients éligibles

Efficacité variable



# La thrombectomie



**Le caillot ?**

## ETIS

- Registre national des thrombectomies
- Données cliniques
  - Données imageries
  - Suivi à 3 mois

## COMPOCLOT

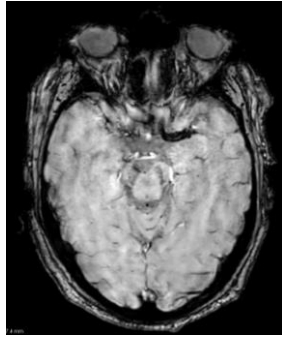
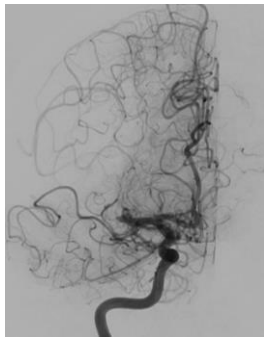
- Biobanque nationale
- Caillots
  - Prélèvements sanguins



11 Centres CompoClot

# L'étude des données

Registre Etis +  
Collection CompoClot



Picture



Plasma



Fresh thrombus lysis assay

Freezing

Fixation (PFA or glutaraldehyde)

Stored at -80°C

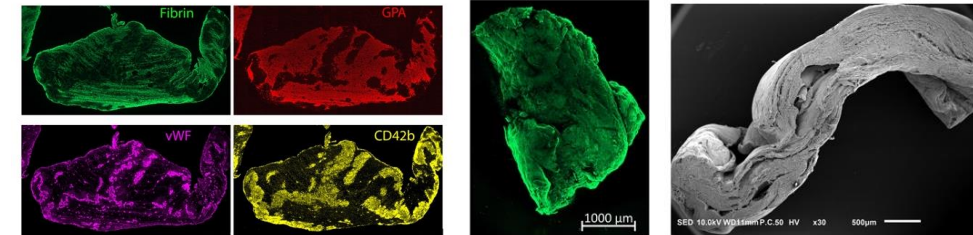
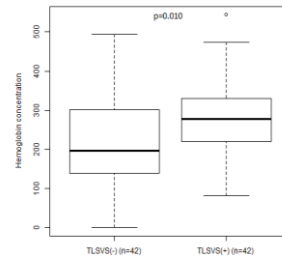
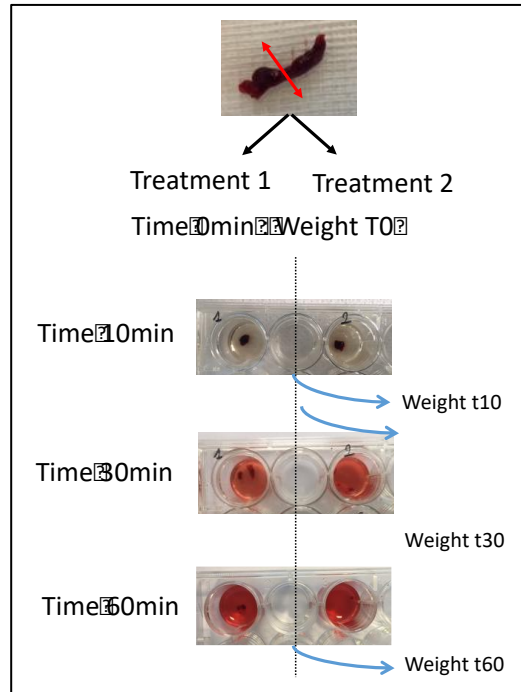
Paraffin embedded sections

Whole mount

Quantitative biochemical analysis

Immunostaining

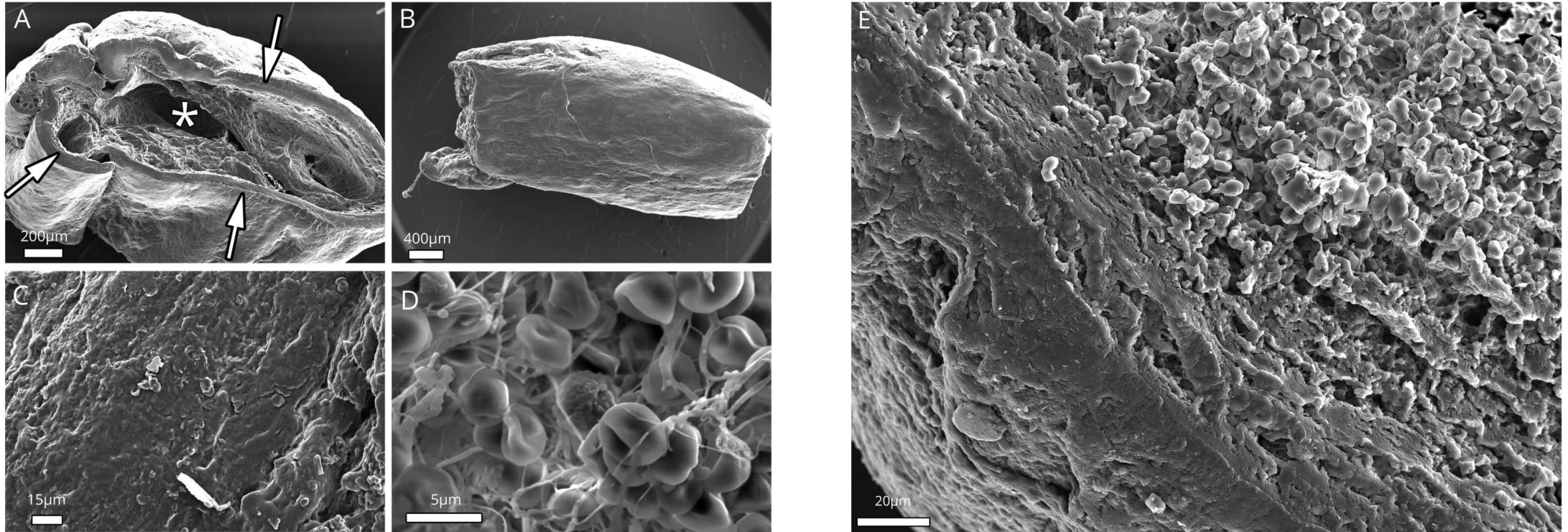
SEM



+ Patient's written consent

# Acute ischemic stroke thrombi possess a core shell structure

Scanning electron microscopy (n=30)



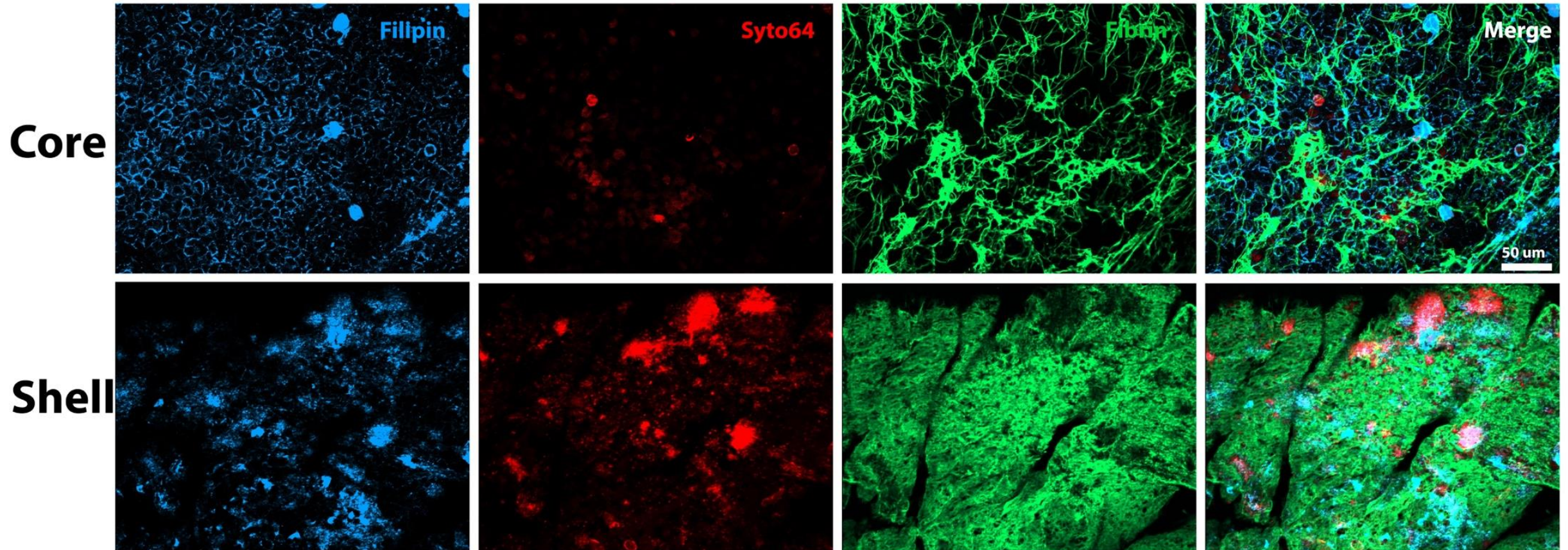
- Sealed external shell encapsulating a loose erythrocyte-rich core
- Shell components were so densely compacted and agglomerated that they formed a continuous layer
- Clearly identifiable RBCs, fibrin fibers, and aggregated platelets in the inner core

Di Meglio et al. Neurology 2019

Di Meglio – Neurology 2018

# Acute ischemic stroke thrombi possess a core shell structure

Whole mount immunostaining (n=8)

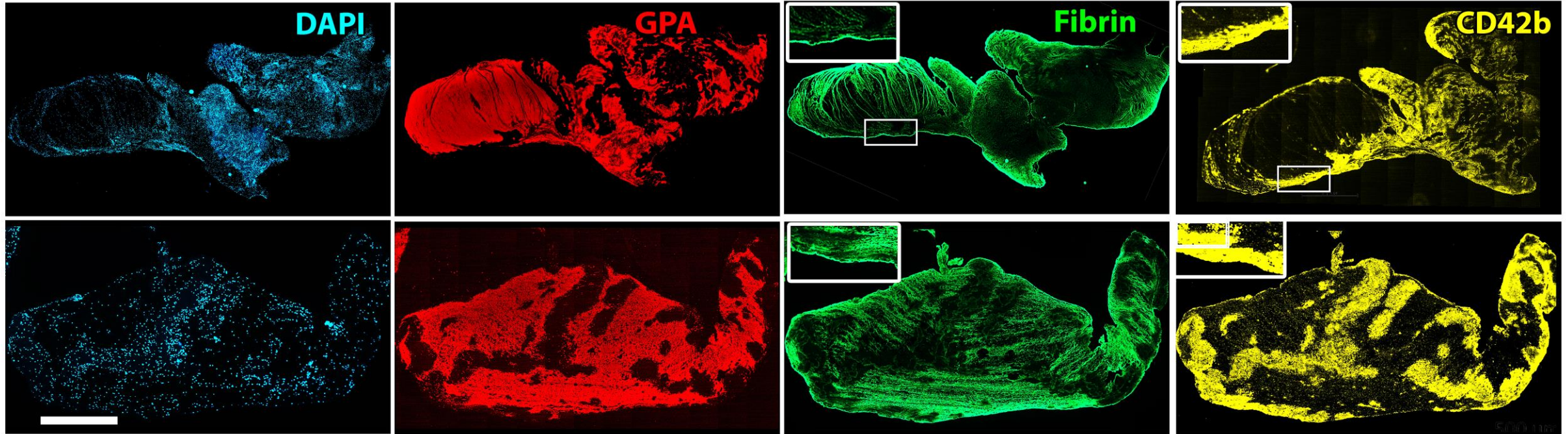


- Core => red blood cells trapped in a fibrin network of thin fibers
- Shell => membranes remaining, extracellular DNA and fibrin network thick and sealed



# Acute ischemic stroke thrombi possess a core shell structure

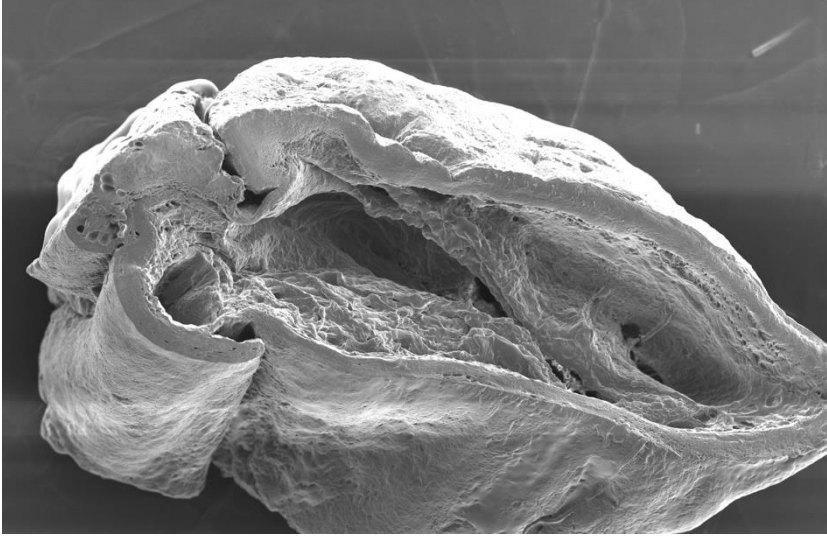
Immunostaining of paraffin embedded sections (n=164)



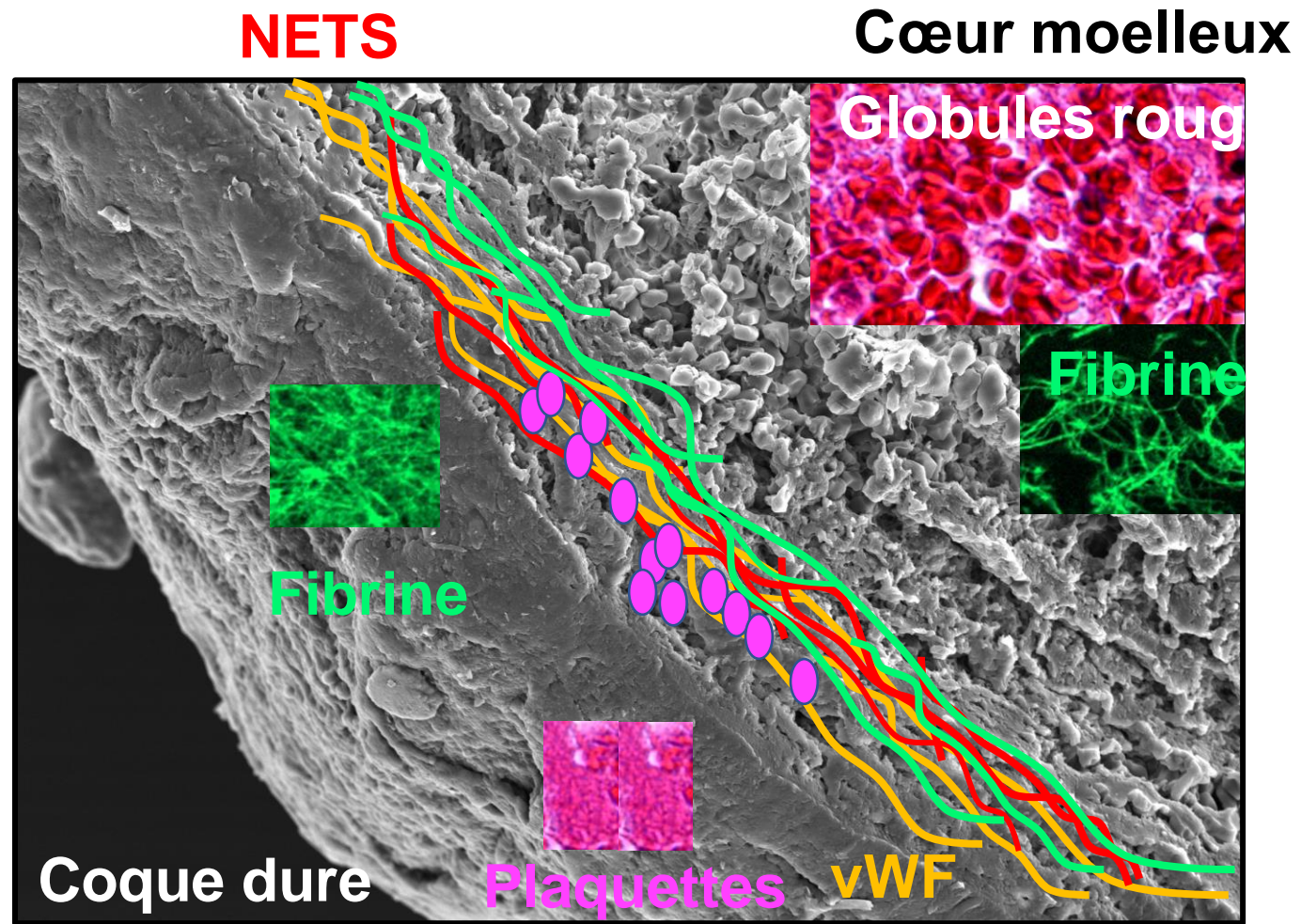
=> Components distribution and proportion is **largely heterogeneous**

=> Common feature = **external layer** of fibrin, DNA and platelets

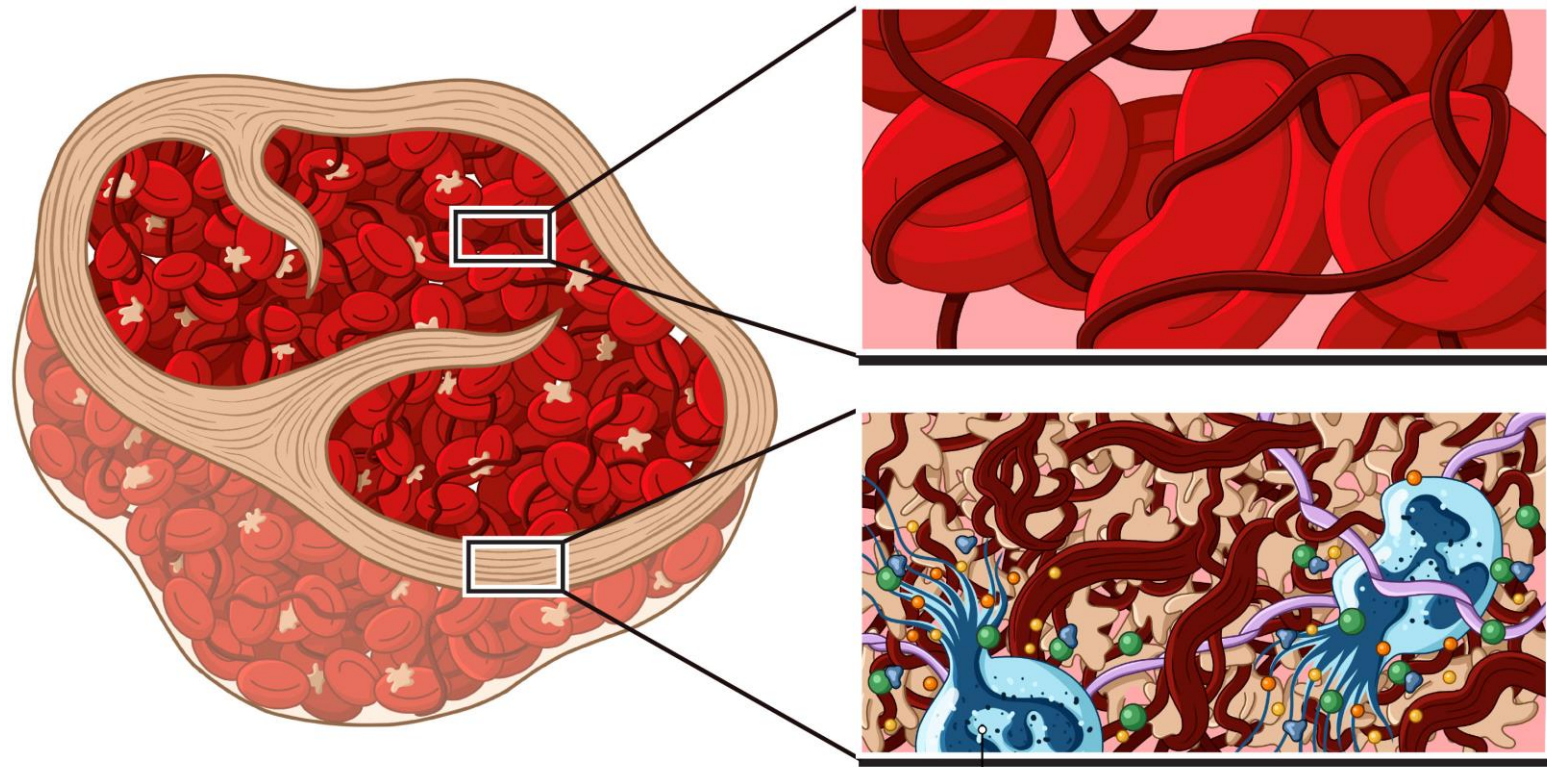
# L'anatomie du caillot



# L'anatomie du caillot











# L'anatomie du caillot

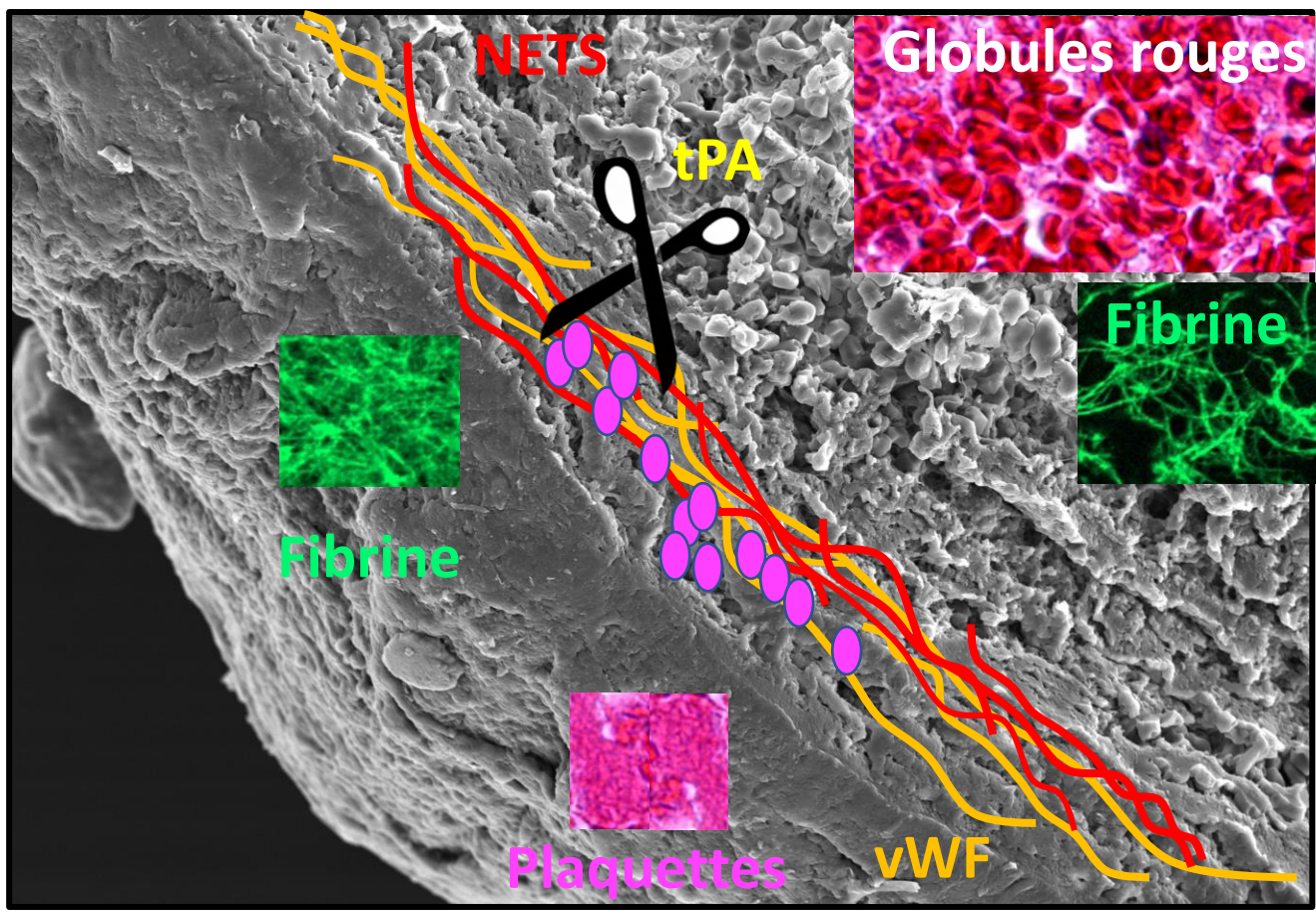


Neutrophil Extracellular Traps

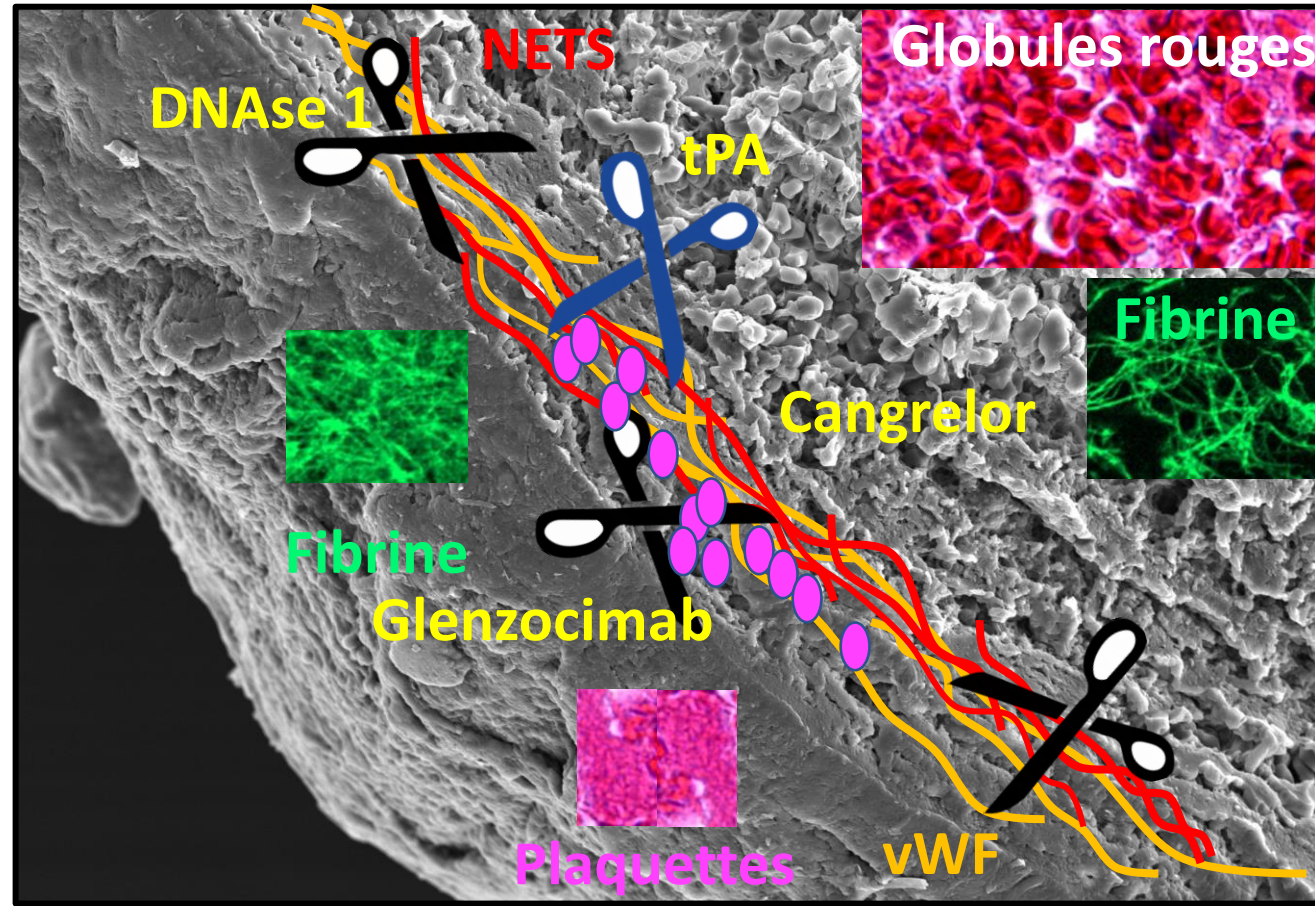
**Legend:**

	platelet		red blood cell		plasmin(ogen)		PN-1		vWF
				tPA		PAI-1		fibrin	

# Aujourd'hui...



# Aujourd'hui... et DEMAIN ?





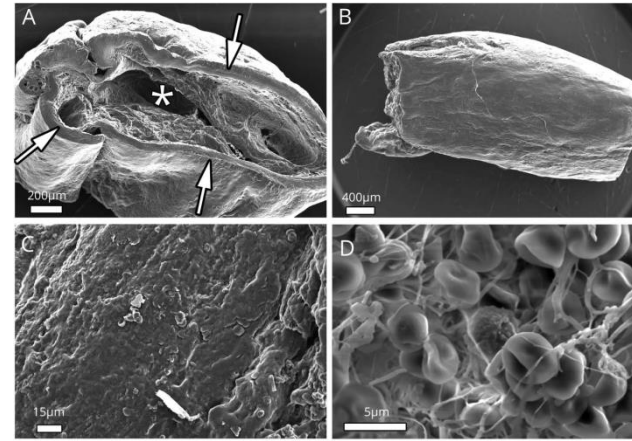
# 5 ans pour faire émerger une médecine personnalisée des AVC en situation d'urgence



## **BOOSTER**

*Brain clOt persOnalized therapeutic Strategies  
for sTroke Emergent Reperfusion  
Pr M Mazighi*

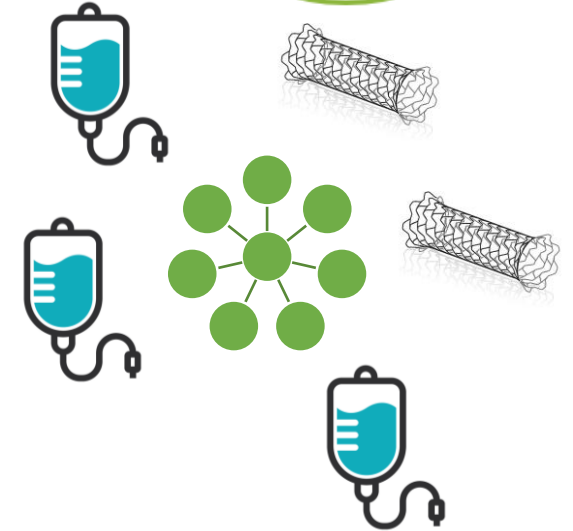
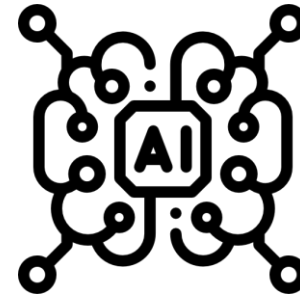
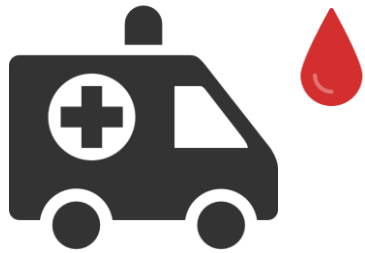
<https://rhuboster.for.paris/>



**On comprend mieux le caillot,  
donc bientôt des marqueurs  
sanguins, de nouvelles  
molécules thrombolytiques...**



# Le RHU Booster



# De la recherche, en situation d'urgence....

**Ajouter de la complexité à la complexité :**

**Décloisonner le soin et la recherche**

# De la recherche, en situation d'urgence....

**Ajouter de la complexité à la complexité :**

- Décloisonner le soin et la recherche
- Ajouter de la sécurité à la sécurité

# De la recherche, en situation d'urgence....

## Ajouter de la complexité à la complexité :

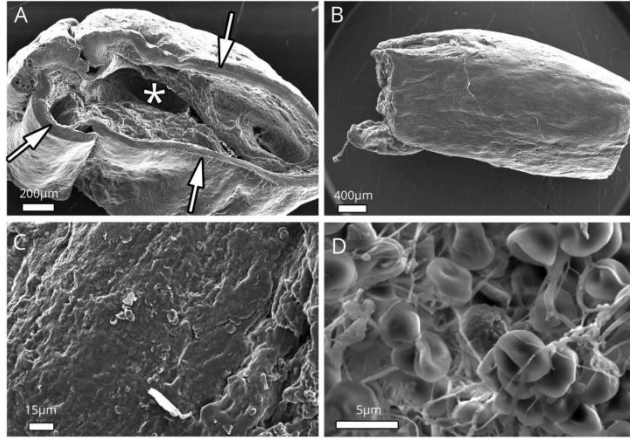
- Décloisonner le soin et la recherche
- Ajouter de la sécurité à la sécurité
- Ne pas ajouter de stress au stress... ;)

# De la recherche, en situation d'urgence....

## Ajouter de la complexité à la complexité :

- Décloisonner le soin et la recherche
- Ajouter de la sécurité à la sécurité
- Ne pas ajouter de stress au stress... ;)
- Tous acteurs 😊

# ALLO LE CAILLOT, QUOI DE NEUF ?



**#OnAvance**  
**@TousEnsemble**



**BOOSTER**