



**Avancées
thérapeutiques
dans les
maladies
vasculaires**

06 et 07 juin 2024

Hôtel Mercure, Alger



SAMEV



Avancées thérapeutiques endovasculaires dans la revascularisation de l'AOMI

Dr A Chouiter



SAMEV

- Des millions de personnes dans le monde souffrent d'une maladie artérielle périphérique ou de sa manifestation la plus grave, l'ischémie critique.
- Bien que le traitement endo-vasculaire soit devenu le traitement de première intention dans la plupart des cas, un certain nombre de défis demeurent pour l'obtention du résultat optimal aussi bien au niveau aorto-iliaque, fémoro-poplité qu'infra-poplité



Challenges / Limitations

- Franchissement
 - Guides
 - Cathéters
 - Ballonnets
 - Autres outils...
- Maintien de la perméabilité
 - Stents (actifs)
 - Ballons (actifs)
 - Médicaments...

Challenges / Limitations



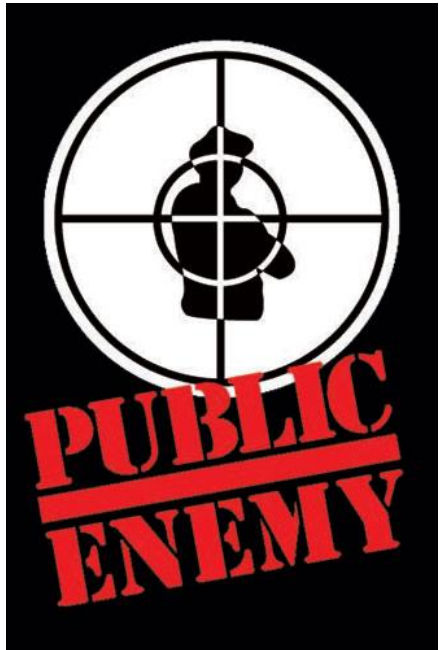
- Franchissement

- Maintien de la perméabilité

- Calcium

- Les occlusions totales chroniques

- Occlusions de stents.



Franchissement des occlusions

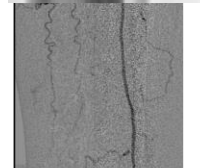
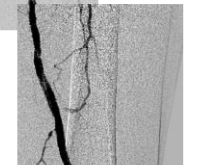
« Combat » contre les calcifications !!!
























Nouvelles techniques et nouveaux dispositifs

3 axes de développement:

- Fragilisation de la plaque Lithotripsie intravasculaire (IVL)
 - ... Shockwave
- Outils d'athérectomie (thrombo-athérectomie)
 - Jetstream
 - HawkOne
- Technologies d'élution médicamenteuse
 - Ballons
 - Stents et stents résorbables (en évaluation)

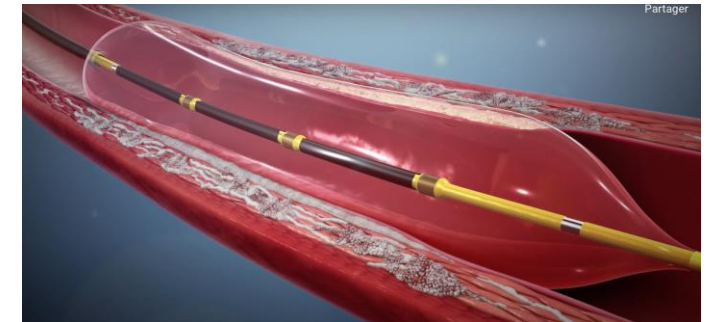
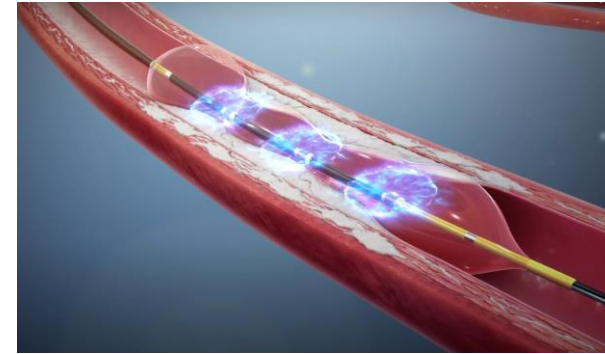
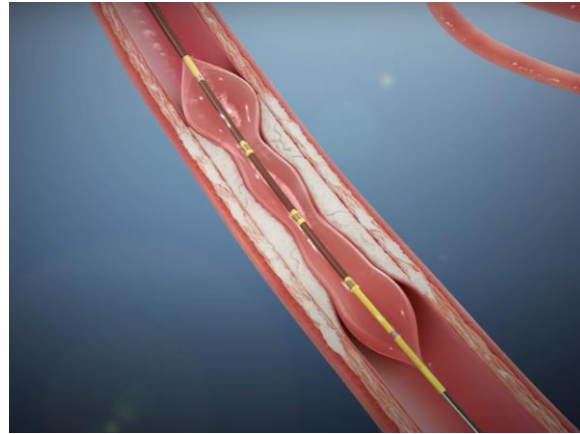


Durée du combat !!!

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Et le cout ?

Lithotripsie intravasculaire (IVL) dans les lésions fortement calcifiées



↪ Craquer le calcium

↪ Augmenter la compliance du vaisseau

Lithotripsie intravasculaire (IVL) dans les lésions fortement calcifiées: Résultats

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Original Research

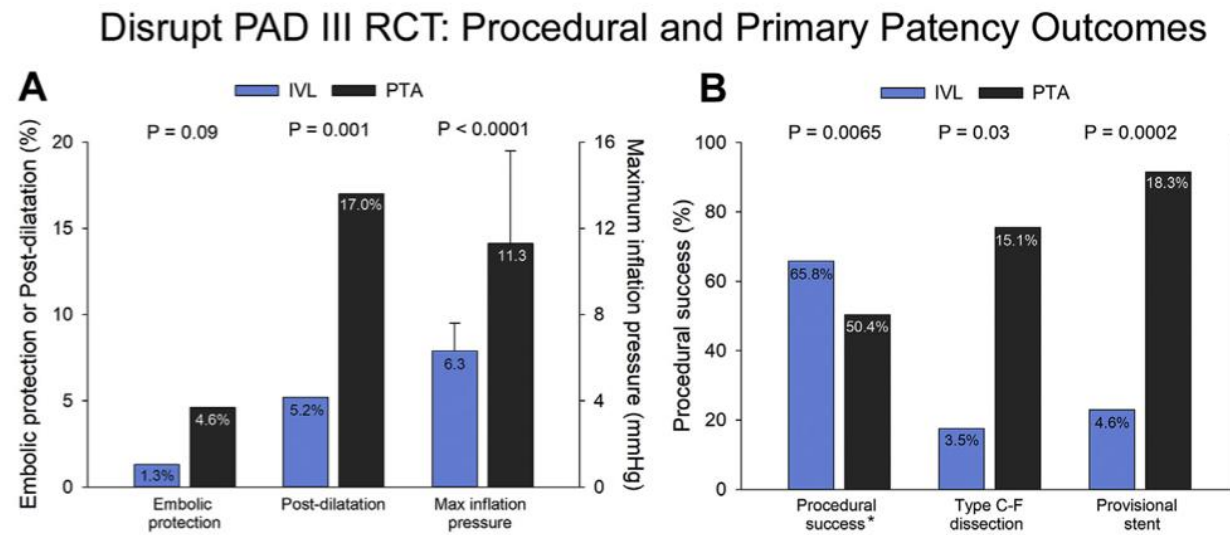
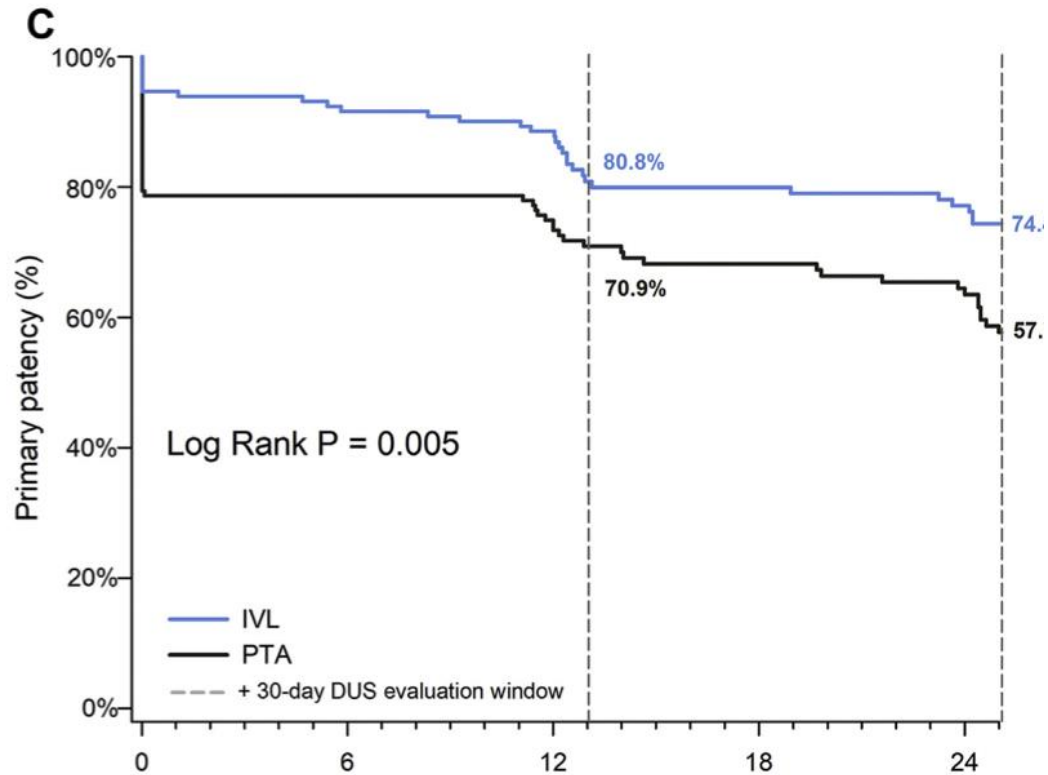
Intravascular Lithotripsy for Peripheral Artery Calcification: Mid-term Outcomes From the Randomized Disrupt PAD III Trial



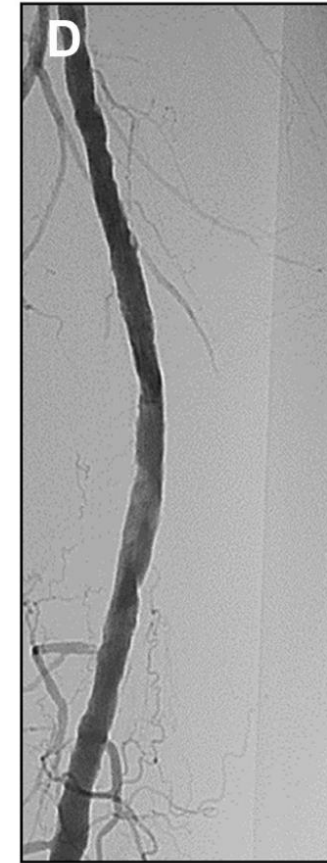
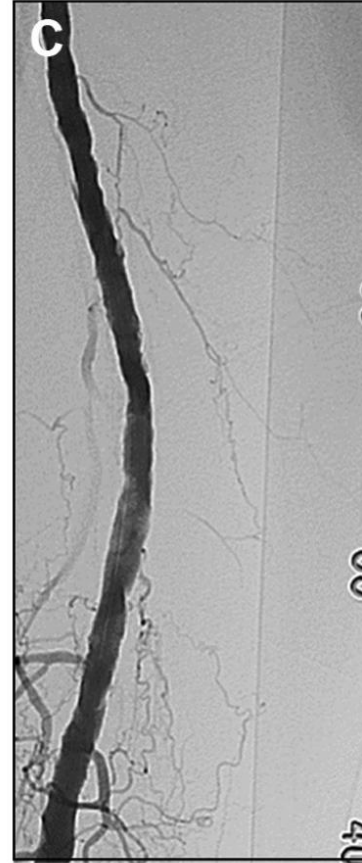
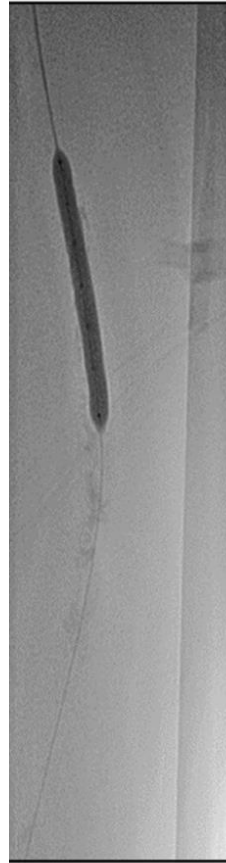
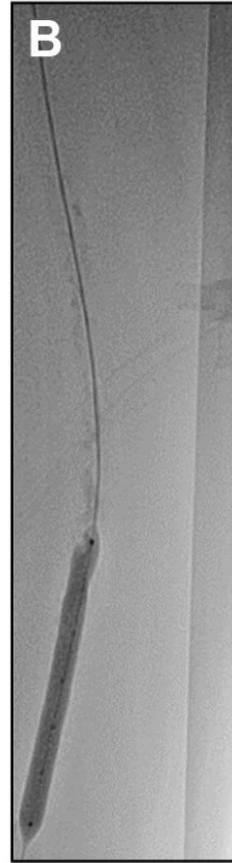
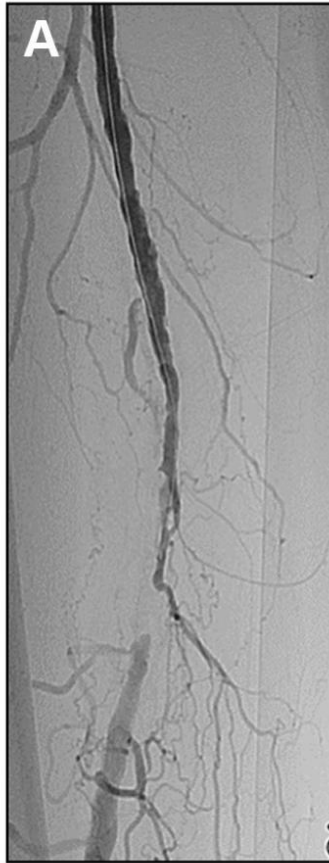
Gunnar Tepe, MD ^a, Marianne Brodmann, MD ^b, William Bachinsky, MD ^c, Andrew Holden, MD ^d,

Methods: The Disrupt PAD III RCT enrolled 306 patients with moderately-to-severely calcified femoropopliteal arteries treated with IVL ($n = 153$) or PTA ($n = 153$) prior to DCB treatment or stenting. The powered secondary effectiveness endpoint was primary patency at 1 year, defined as freedom from clinically driven target

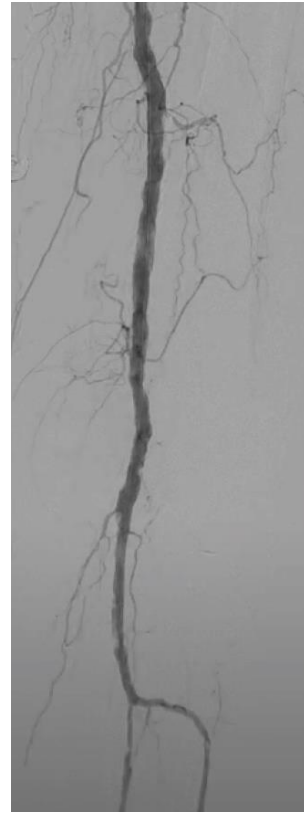
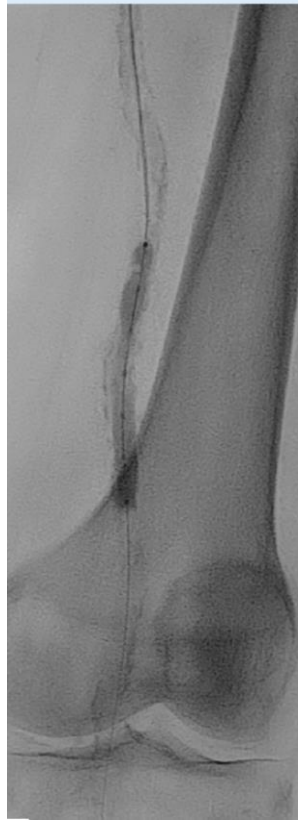
Lithotripsie intravasculaire (IVL) dans les lésions fortement calcifiées: Résultats



Lithotripsie intravasculaire (IVL) dans l'AOMI fortement calcifiée

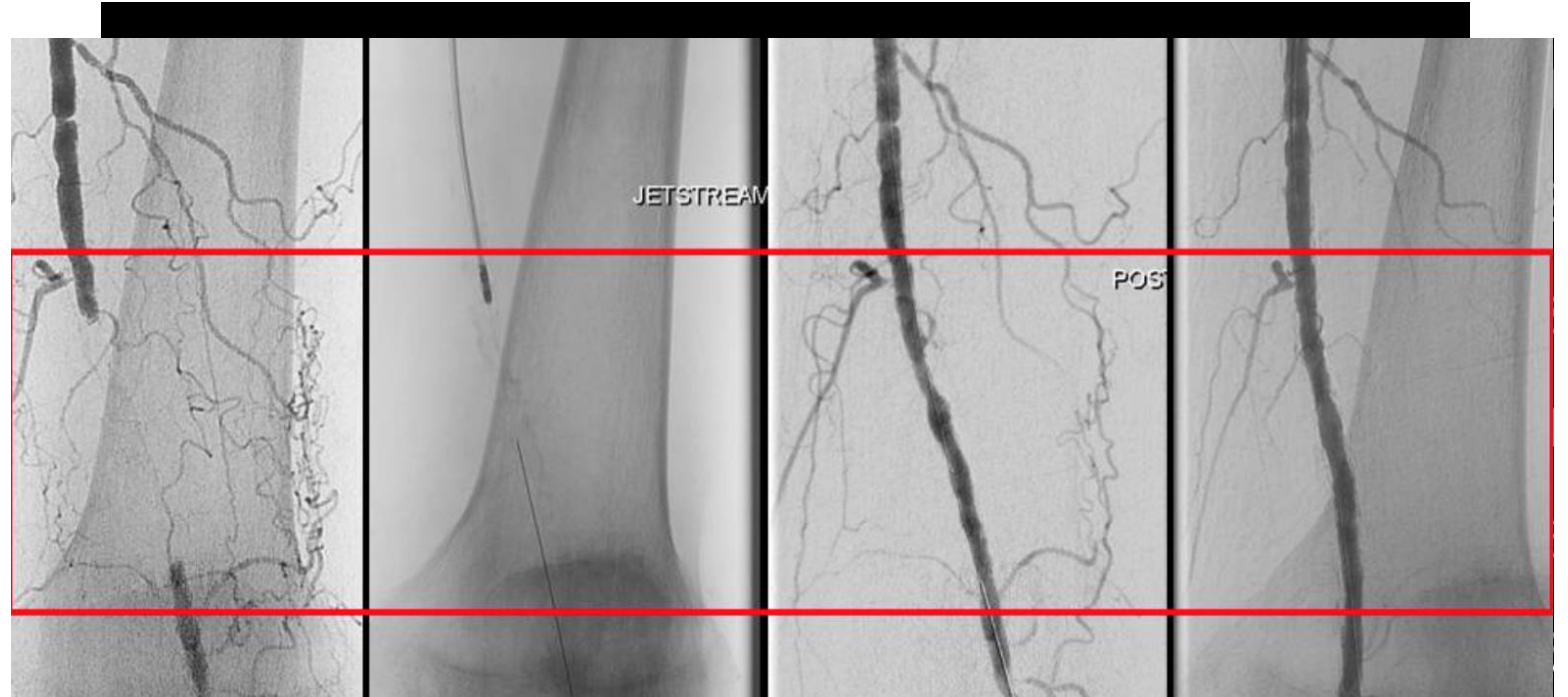
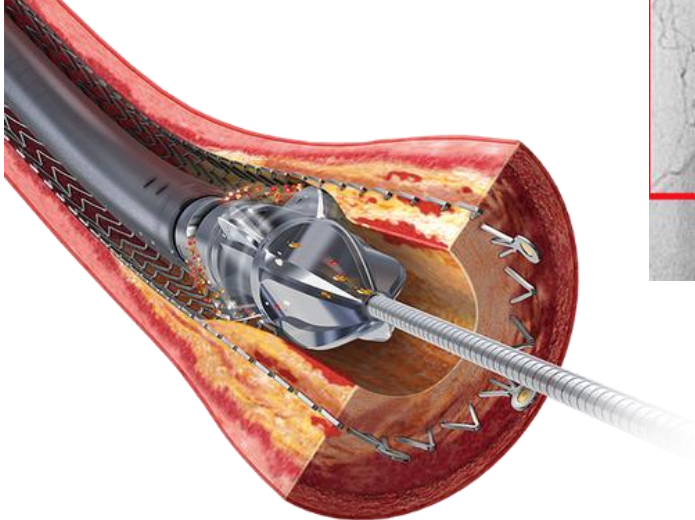
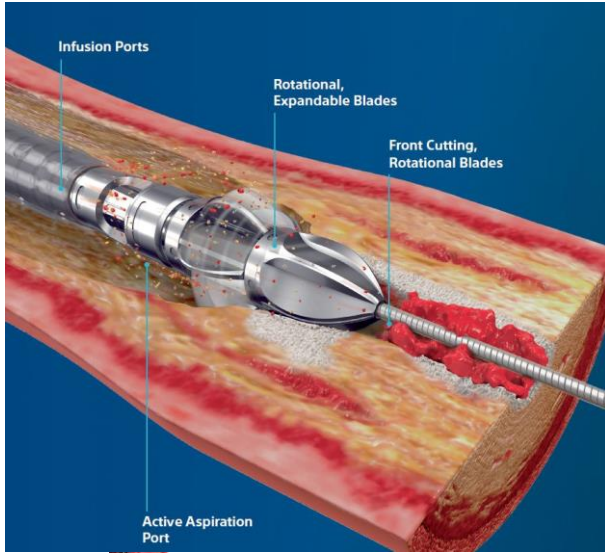


Lithotripsie intravasculaire (IVL) dans les lésions fortement calcifiées



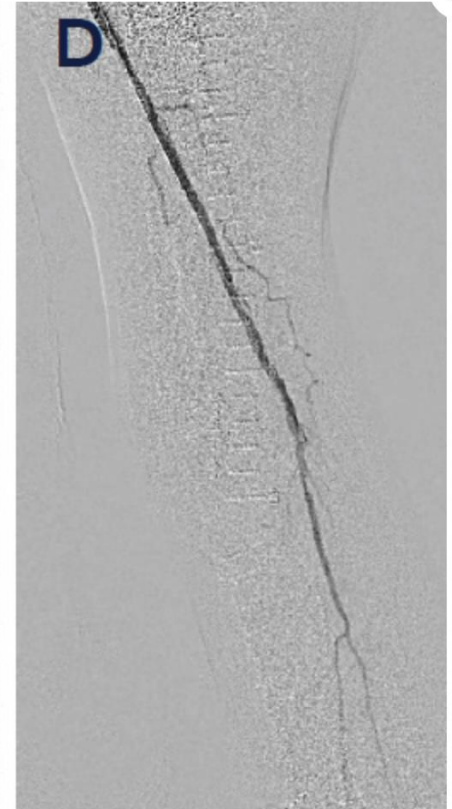
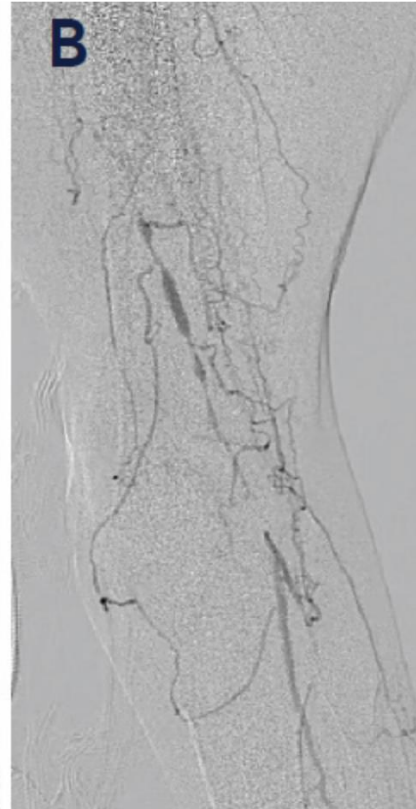
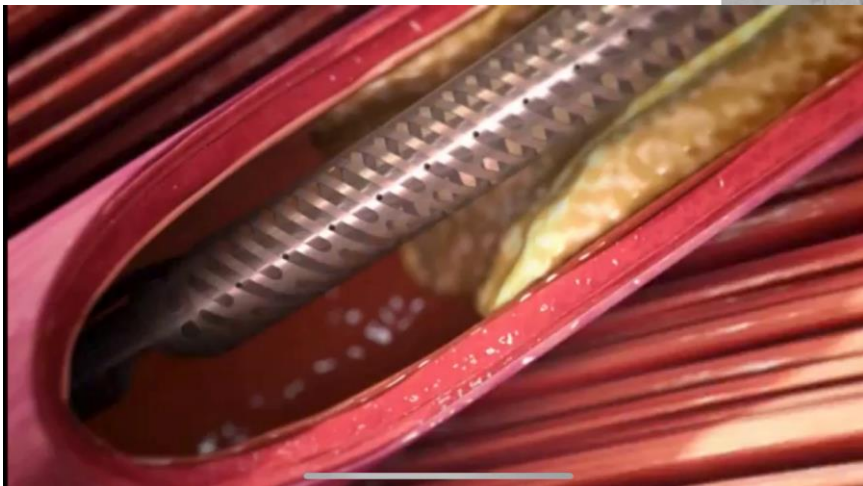
Outils d'athérectomie endovasculaire

➤ Athérectomie rotationnelle: Jetstream



Outils d'athérectomie endovasculaire

➤ Athérectomie directionnelle: Hawk One



Outils d'athérectomie endovasculaire

- Athérectomie directionnelle: Hawk One



Buts de l'athérectomie:

- « Debulking » du calcium
- Améliorer la compliance
- Réduire la resténose
- Améliorer le résultat post PTA
- Réduire les besoins en stent
- Améliorer la captation des drogues anti-prolifératives

Paclitaxel et Syrolimus technology

- Drogues anti-prolifératives et anti-inflamatoire

PERIPHERAL INTERVENTIONS

Paclitaxel-coated balloons for femoropopliteal peripheral arterial disease: final five-year results of the IN.PACT Global Study

EuroIntervention 2022;18:e940-e948. DOI: 10.4244/EIJ-D-21-01098



Thomas Zeller¹, MD, PhD; Marianne Brodmann², MD; Gary M. Ansel³, MD; Dierk Scheinert⁴, MD; Donghoon Cho⁵, MD, PhD; Gunnar Tepe⁶, MD; Jeremiah Menk⁷, MS; Antonio Micari⁸, MD, PhD

- 1406 patients with IC or rest pain
- 1774 lesions
- Mean lesion length 12.1 +/- 9.5 cm
- 18% ISR
- 35.5% total occlusions
- 68.7% calcified arteries

Effectiveness

Freedom from clinically driven target lesion revascularization[†] through 60 months

Safety

Composite of freedom from device- and procedure-related death through 30 days, and freedom from major target limb amputation & clinically driven target vessel revascularization[†] through 60 months

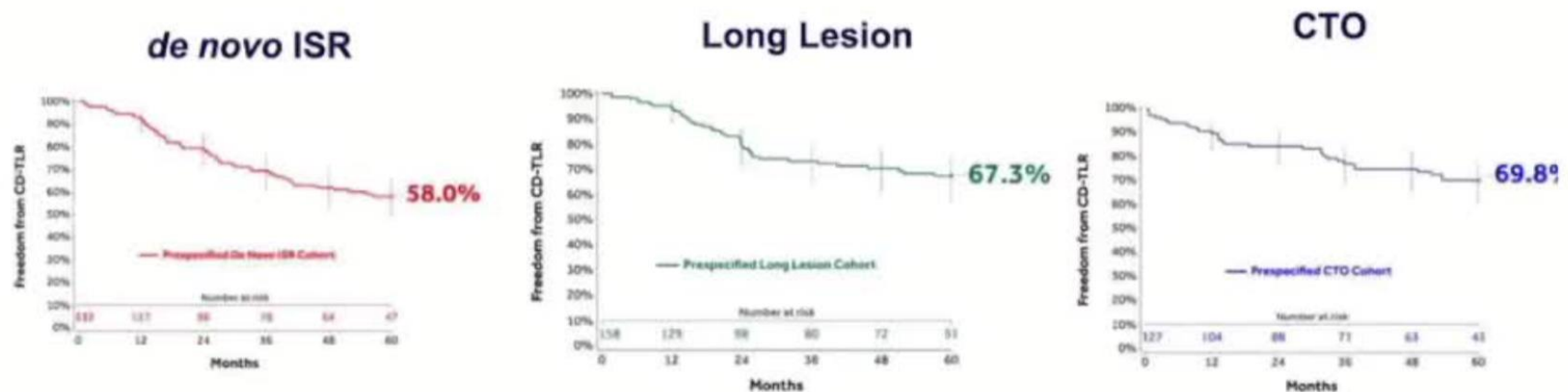
- FREEDOM FROM CD-TLR	69.4%
- MEAN SURVIVAL TIME TO FIRST CD-TLR	1470.1 DAYS
- DATA SIMILAR FOR MEN AND WOMEN	
- CUMULATIVE INCIDENCE OF MAE	45.9%
- FREEDOM FROM ALL-CAUSES MORTALITY	78.9%

Paclitaxel et Syrolimus technology

- Drogues anti-prolifératives et anti-inflamatoire

IN.PACT Global sub-cohorts analysis: de novo ISR, Long lesions, CTO

Freedom from CD-TLR through 5 Years



IN.PACT Global Full Cohort 5-year Freedom from CD-TLR rate: 69.4%

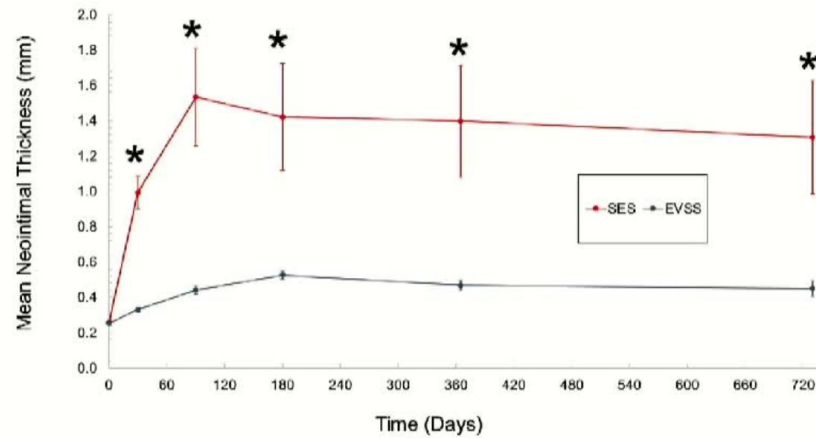
Stents bio-resorbables:

Product	Image	Design	Status
Abbott Esprit		PLLA Everolimus	SFA program carried to FIH, clinical results acceptable in short lesions, but program cancelled Cancelled
Igaki Tamai Remedy		PLLA	Formed from extruded ribbons, low radial strength, poor clinical outcomes, CE mark approved Failed
480 Biomed Stanza		PLLA	No clinical data have been publicly released Failed
Elixir Prava		PLLA Sirolimus	Released clinical data on first 15 patients (no patency reported) Cancelled

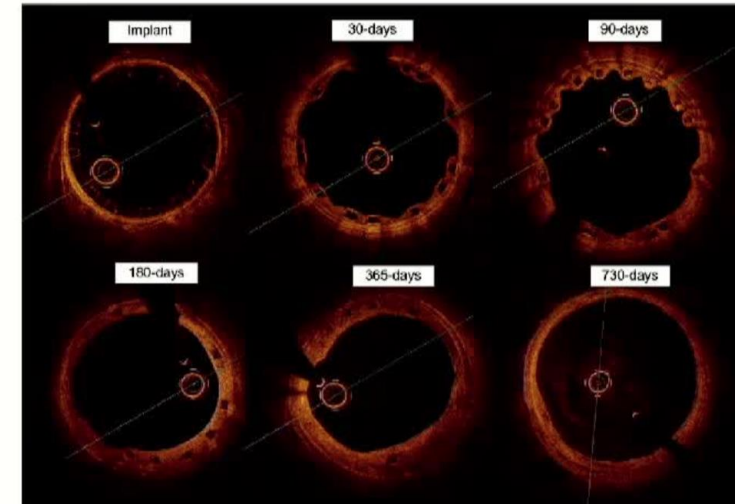
PLLA (Polylactid acid)

Stents bio-resorbables:

Mean Neointimal Thickness – Porcine Iliofemoral Model



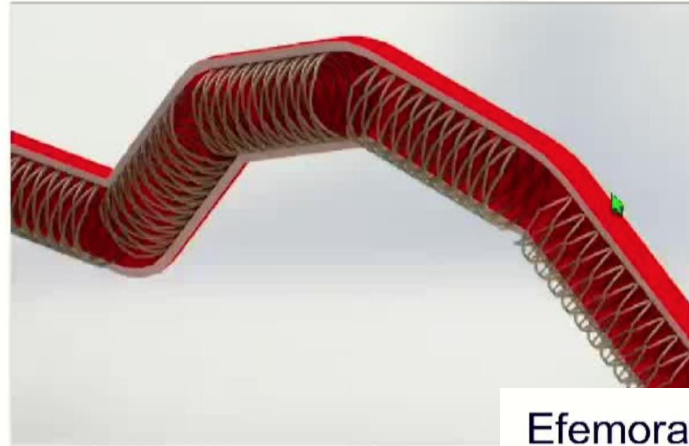
OCT – Porcine Iliofemoral Model



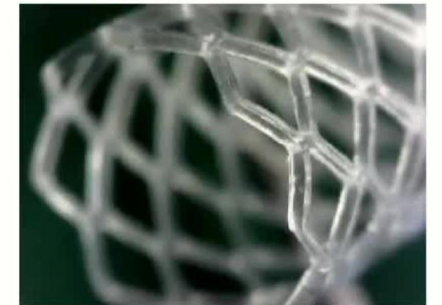
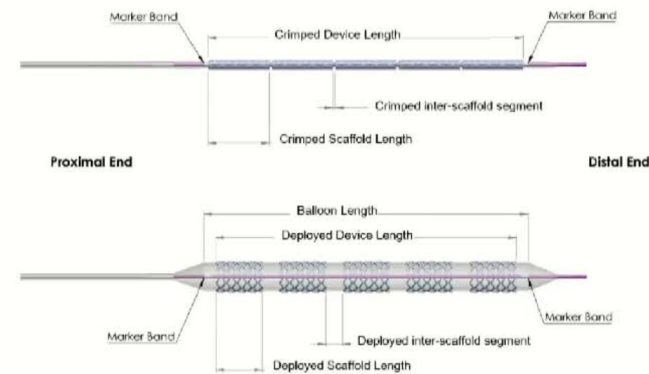
Stents bio-resorbables:

Efemoral Vascular Scaffold System (EVSS)

- Multiple short drug-eluting balloon-expandable resorbable elements
- Mounted on a single delivery system
- Deployed via balloon inflation
- Provides high radial strength typical of balloon-expandable metal stents
- Spacing allows for unencumbered motion of the treated peripheral artery
- Proprietary Sirolimus coating



Efemoral Vascular Scaffold System (EVSS)



- Le domaine de la revascularisation périphérique sur les occlusions chroniques reste d'actualité et le besoin d'améliorations reste nécessaire notamment pour les cas complexes.
- Les résultats de recherches et essais cliniques sont attendues pour déterminer l'utilité et l'efficacité spécifiques de chaque dispositif et notamment la combinaison des uns et des autres.