

VEITH Symposium  
November 19-23, 2024

### *In Stent Restenosis After CAS: How Can It Be Predicted, When Is It Threatening And How Is It Best Managed*

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No Disclosure  
Regarding This Presentation

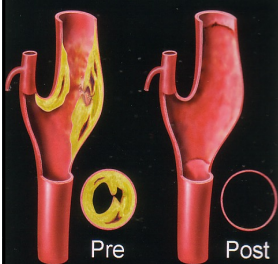
VEITH Symposium, November 19-23 2024, NYC



Thank you Frank for your invitation  
With my best wishes and congratulations



### Carotid Endarterectomy

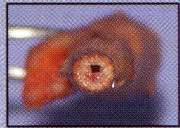
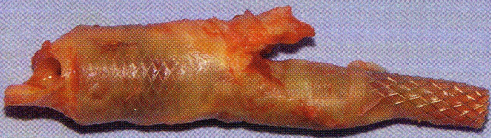


France:  
**16.500**  
Annual  
procedures

French Public Hospitals & Private Institutions Activity

### Carotid In-Stent Restenosis

Restenosis > 70% Inner Diameter




Overall Restenosis  
Rate after CAS  
5 to 12 %

### Carotid In-Stent Restenosis

« The optimal management of  
severe carotid in-stent restenosis  
remains unknown »

Results from a prospective academic registry  
of 2637 consecutive carotid artery stenting procedures  
TARGET-CAS

L. Tekieli et Al, *Advance in Interventional Cardiology*  
2019; 15(4):465-471



## CAS

An Exceptional Journey

*If you are leading one day,  
Please take sometime to  
look behind you ...*

The Importance of the History

**Klaus Mathias, MD**


*University of Munster, Germany*



- First carotid angioplasty in 1977
- First carotid stenting in 1989

**1990: First Carotid Stent Implantation in France**

Performed by **Jacques THERON, MD**  
Interventional Neuroradiologist






**Using a Strecker Stent &  
Balloon Cerebral Protection**

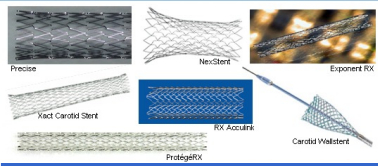
Strecker EP, Theron J et al, *Current Status of Strecker Stent*  
Cardiol Clin 1994;12:673-687

### Pr Clifford BUCKLEY

« In any case, the indication for  
carotid angioplasty with stenting  
must be decided after a  
multidisciplinary discussion with a  
vascular surgeon in particular »

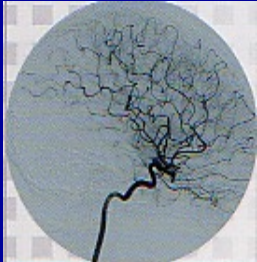
**Authorized Carotid Stents**




**4 Models**

**With NeuroProtection System**

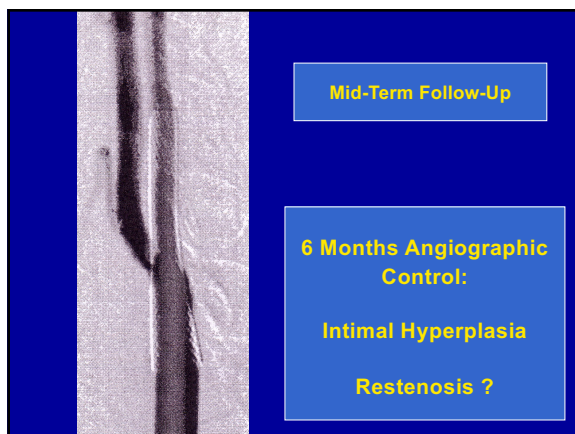
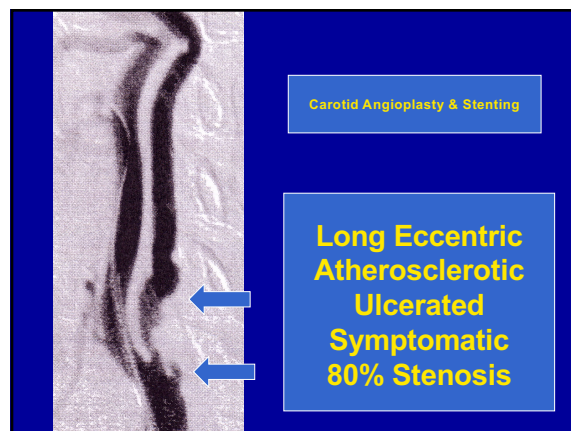
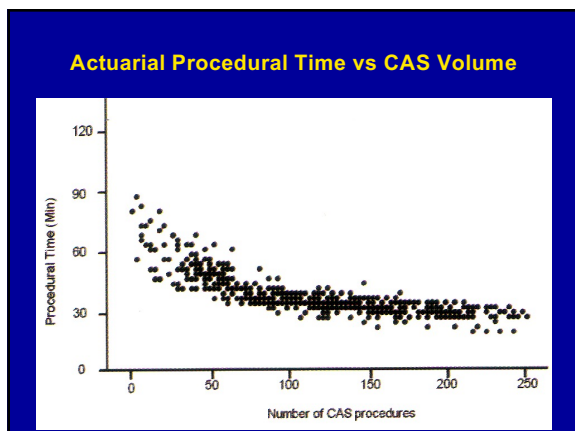
### Interventional Suite



**Cerebral Angiography**



**Digital Angiography System  
Operator Controlled**



- ### Instent Carotid Restenosis Predictors
- Occurs Preferentially in the 1st year
  - Hyperglycemia
  - Smoking
  - Neoplasm / Leukemia
  - Residual Stenosis
  - Small Post Procedural Stent Diameter
  - Multiple Stents

### Two Different Strategic Therapeutical Options

## Endovascular or Surgical

Multidisciplinary Decision Making considering the speciality involved in the initial procedure

- ### Therapeutical Options
- Endovascular Management**
- Re-Stenting*
  - Re-Ballooning*
  - Drug Eluting Balloon*
  - Drug Eluting Stent (Self Expanding)*
  - Mesh / Covered Stent (Roadsaver / CGuard)*

### Therapeutical Options

#### Surgical Management

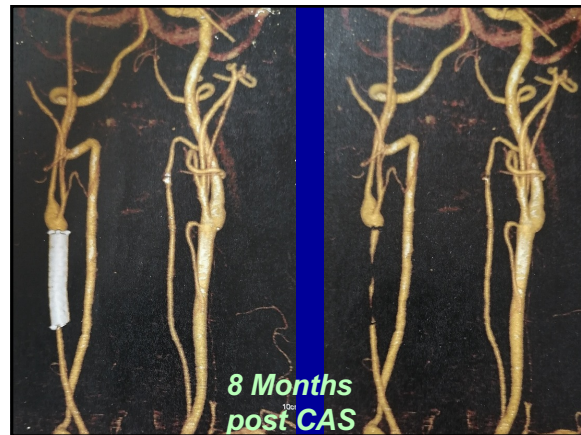
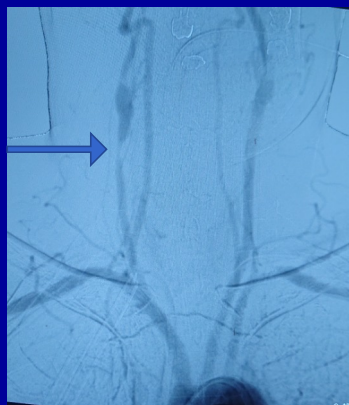
Stent extraction  
Endarterectomy  
Carotid Bypass

### Case Report

- 51 Years Old Male patient
- Smoker : Tabacco / Canabis
- Allograft for Acute Myeloid Leukemia 2017
- HTA
- Serial Pneumothorax

Asymptomatic  
Right Common  
Carotid Stenosis

CAS with Nitinol  
Luminexx Stent

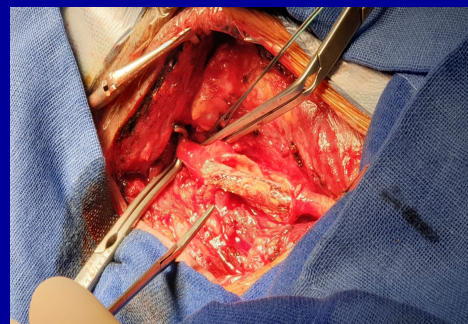


Angiography of the  
Supra Aortic Trunks

Showing a Severe  
Instent Restenosis of  
the Distal Common  
Right Carotid

Immediate  
Decision Making

### Surgical Decision



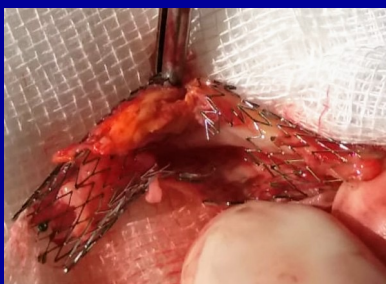
**Stent Extraction**



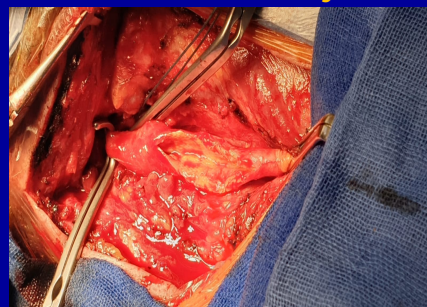
**Neointimal Hyperplasia with  
Advanced Smooth Cell proliferation**



**All Along the Stent**



**Completion of the  
Endarterectomy**



**Completion of the  
Endarterectomy**



**Dacron Patch**



### The Utmost Importance of Duplex Scan Control



### 6 Months Follow Up



### A Team Approach

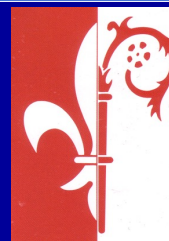


### Conclusion

- Quality of Screening
- Multidisciplinary Approach
- Concerted Decision Making
- Regular Medical Follow up
- Early Reintervention
- Risk Factors Control

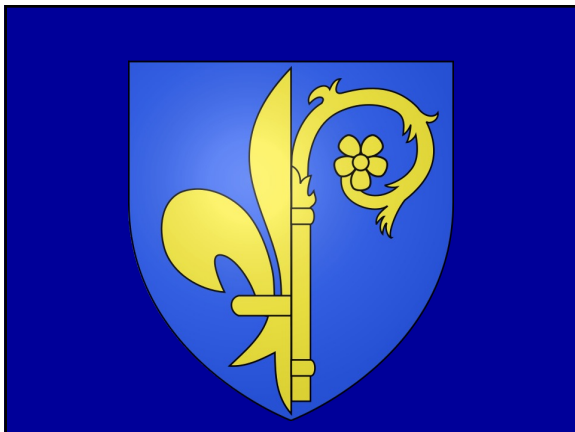
Thank you for your attention

Clinique Chirurgicale Val d'Or



[www.clinique-valdor.com](http://www.clinique-valdor.com)

Saint Cloud  
Groupe Fondation VIVALTO



**No Disclosure  
Regarding This Presentation**

***In Memory***



**Charing Cross Symposium 2012  
London, UK**

**Programme Chairman  
Roger Greenhalgh**

***Pr Chang Shu***

*Chairman of the China Vascular Congress*



*With my grateful thanks for your invitation*

*in memoriam*

**Professor Clifford Buckley  
USA**

