BUILDING ENDOVASCULAR SYNERGIES

MEET 2015

MULTIDISCIPLINARY EUROPEAN ENDOVASCULAR THERAPY

Carotid Artery Stenting:

is it possible to reduce complications?

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Disclosure

Speaker name

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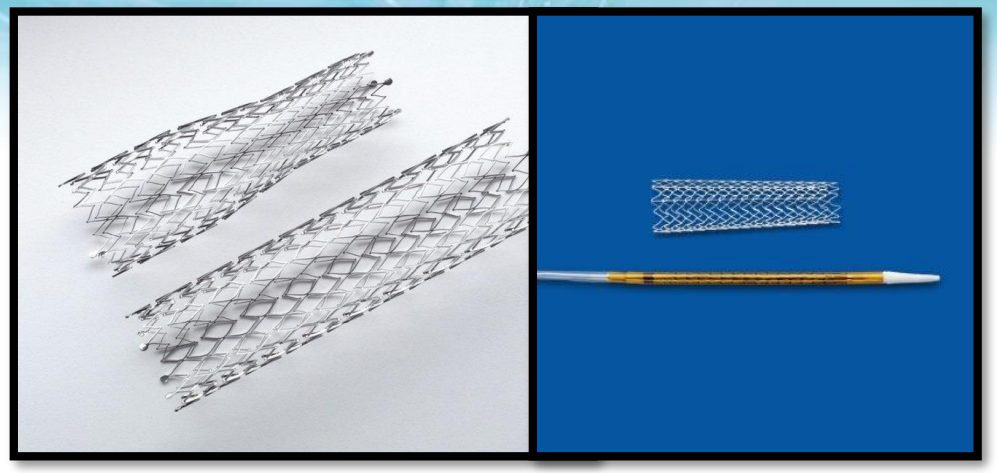
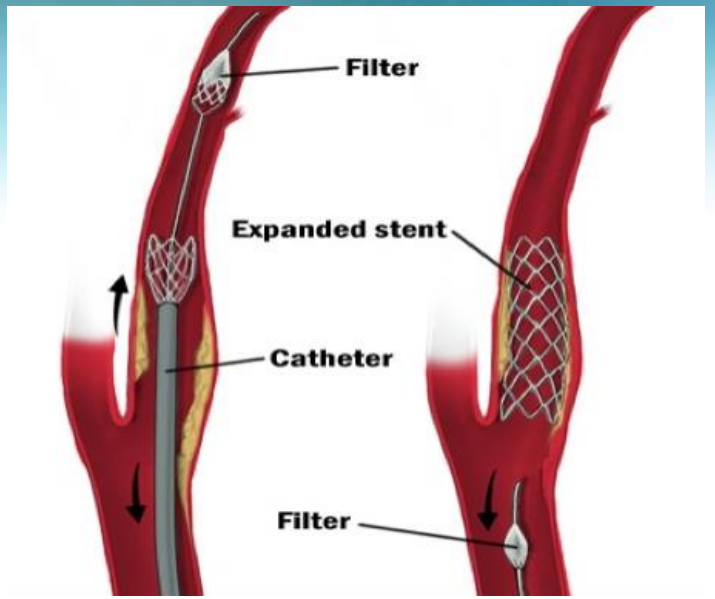
I have the following potential conflicts of interest to report:

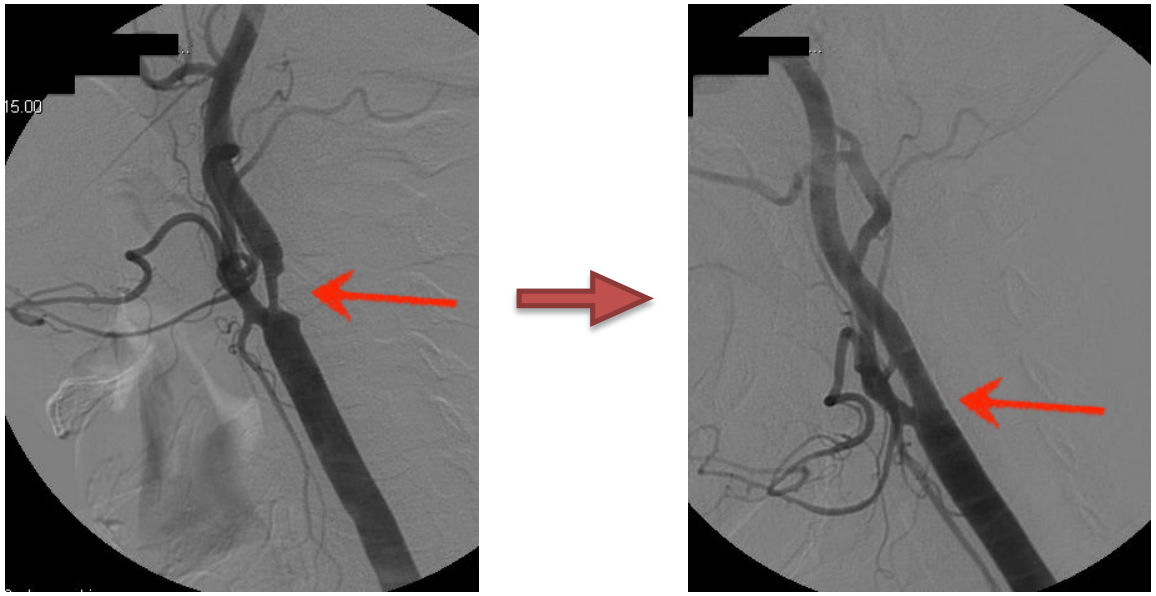
- ☐ Consulting
- ☐ Employment in industry
- ☐ Shareholder in a healthcare company
- ☐ Owner of a healthcare company
- ☐ Other(s)

X I do not have any potential conflict of interest

PURPOSE: improve patient selection for CAS, identifying and excluding high-risk patients, in order to reduce the complications (periprocedural stroke < 1%)







METHODS

Retrospective analysis of 450 performed between January 2004 and December 2010.

Procedures	**450**
Males	**69%**
Mean Age	**72 (range: 43 - 86)**
Symptomatic (stenosis > 50%)	**45%**
Asymptomatic (stenosis > 75%)	**55%**

High Surgical Risk Patients

- Total	72%
- Severe controlateral stenosis	37%
- severe heart disease*	24%

*(severe or unstable angina, poor left ventricular function, left main desease or trivascular coronary artery disease, severe cardiac valve disease)

5% treated with urgent CABG after CAS

Patients Submitted to CAS: Characteristics

- Soft plaque	**18%**
- Bilateral stenosis	**9%**
- Restenosis after surgical treatment	**5%**
- Instent restenosis	**1%**
- Type III Aortic Arch	**12%**
Complex Morphology (*)	**42%**

(*) excessive angulation, heavy calcification, string sign aspect, length > 15 mm.

Results and Complications

- Successful result	99%
- Major complications	1.9%
death	1 (1 fatal stroke)
major stroke	3
intracerebral hemorragic stroke	1
minor stroke	5
acute instent thrombosis	1 (treated surgically)
- Puncture site hematoma	4 (treated surgically)
death for hemorragic shock	1

Follow Up

- Complete follow-up:	95%
- Instent restenosis:	1% (6 pt. treated with a new CAS)
- Death (all causes):	50 pt.
cardiovascular causes:	22 pt.
causes related to CAS:	0 pt.

Target from 2011 onwards

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Our goal is to improve patient selection for CAS identifying and excluding high-risk patients in order to clear the complications (periprocedural stroke < 1%)

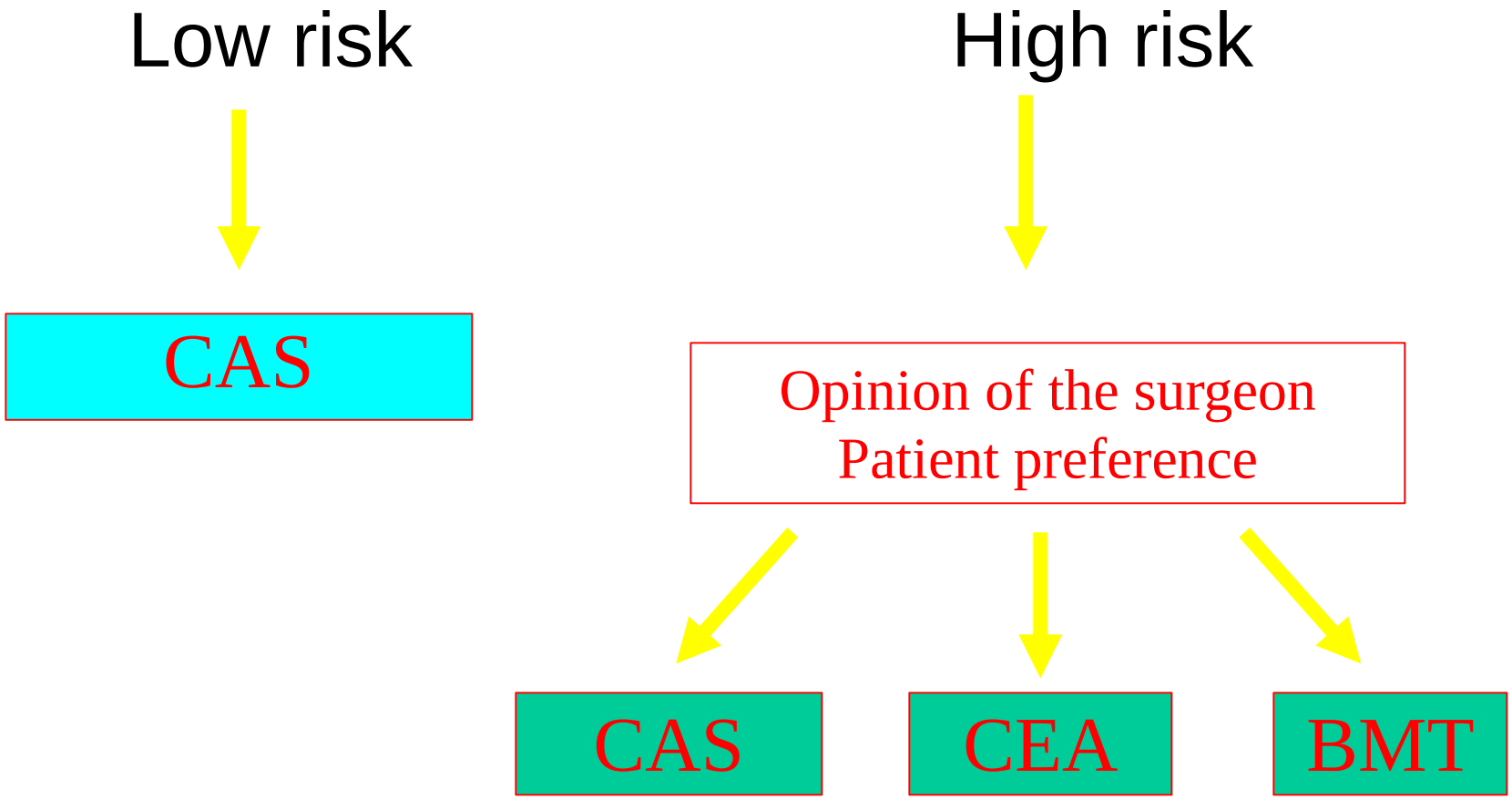
PERIPROCEDURAL ASPECTS

- Age and symptomatic status
- Diabetes mellitus.
- DECREASE CEREBRAL RESERVE:
    - Prior strokes
    - Lacunar infarcts.
    - Microangiopathy
    - Dementia and Parkinson
- Chronic renal failure.
- Cardiac diseases.

ANGIOGRAPHYC ASPECTS

- Femoral approach.
- Aortic arch injections.
- Selective cerebral angiography.
- Carotid anatomies.
- Plaques morphologies.
- Intracranic circulation.
- Coronary angiography.

Decision making



PATIENTS NOT SUBMITTED TO CAS

- Complex type III aortic arch.
- Soft plaques and thrombus
- Heavy and eccentric calcifications.
- ICA angulation and kinking post-stenosis
- Pseudo-occlusive plaques - string sign.

Improvement of Technical Aspects

- Use of guiding catheter and coaxial technique.
- Use of distal filter devices.
- Self-expanding nitinol stents.
- Not use of oversized balloon.
- Angio-Seal for femoral hemostasis

Results and Complications (January 2011 - August 2014)

Procedures	**252**
- Successful result	**99%**
- Periprocedural stroke rate	**0.8%**
death	**0**
major stroke	**0**
haemorragic stroke	**1**
minor stroke	**1**
- Vascular complication	**0**
- Acute Renal Failure	**0.3% vs 1.5%**

Cost Savings
(January 2011 - August 2014)

Reduction in material costs	**33%**
Reduction in length of procedures	**mean 18 min.**
Reduction in Hospital stay	**3 days**

CONCLUSIONS

If performed by experienced operators, CAS is a safe procedure with low complications rate and it may be a viable alternative to surgical endoarterectomy not only in high surgical risk patients but also in asymptomatic and low risk patients.