New Transcranial Doppler Technology and how it can help in Carotid Treatment

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Disclosure
Inventor of "Mo.Ma and Piton"

TCD Useful in every phase of CEA or CAS

- Pre-operative: TCD can identify risky plaque
- During CEA or CAS: TCD can identify clamping intolerance and alert of intra-procedural complications
- Post-operative: TCD can detect thrombosis or impending complications

A lot of literature suggests that innocuous but frequent HITS are a sign of impending stroke

With the until now available TCDs, a lot of good studies but a low clinical practice

- Not easy to use
- Elmet not rarely painful
- Frequent loss of the signal
- HITS count complex and elaborate
- Cost of the equipment and operator

A suitable TCD for detection of cerebral flow and microembolic and thrombotic events alert in clinical practice

ADVANTAGES:
- Portable (Mounted on glasses)
- Robotic autofocus (Over 5 cm. area)
- HOLTER detection of HITS (both operative time > 5 hours)
- Easier to use and cheaper

THE TCD ROBOTIC HOLTER: not only for studies

Can be used in Hospital and at home without problems

- For preoperative evaluation of risk level of plaque in symptomatic pts.
- In asymptomatic pts. with vulnerable plaque
- Computer disconnected (Holter system)
- > Five hours battery life
**Alerts of Trombo Emboi in Real Time**: during CEA or CAS.
- Well tolerate by awaked pts.
- Robotic research of loss signal.
- Suggests to take appropriate measures.

**TCD** in post-operative CEA or CAS:
- Immediate alert of complication or impending complication.
- Patient in bed with TCD.
- Patient is free to walk in the ward.
- TCD Holter disconnected.

**Usefulness of TCD** for the evaluation of efficacy of new antiembolic procedure:
- Dilation First: a new entry procedure in our strategy of safe CAS.
- Complete dilation of plaque before stenting.
- No post-dilation (plaque prolaps prevention).

**Theoretical effect of plaque dilation**
- Postdilation = more plaque fractures, probably more emboli.
- Dilation first = less plaque fracture, probably less emboli.

**Preliminary results in 27 cases (MOMAAS EPB)**
- Debris in the aspirate blood with MOMA: 6.7%.
- Debris in the aspirate blood without MOMA: 1.7%.

**IN CONCLUSION**
- The advantages of Transcranial Doppler in every phase of the carotid treatment.
- Was well known even in the past.
- But only now we have a TCD that can be easily used in clinical practice.