Can We Modulate Hypertension Through The Carotid Bulb?

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The Mobius HD Carotid Bulb Implant To Lower Blood Pressure

I am a site Principal Investigator for the CALM-2 trial.

Carotid Sinus Modulation for HTN
- Disclosures -

Carotid Sinus Modulation for HTN

- The Scope of the Problem -

Cardiovascular death risk doubles with each 20/10 increase in blood pressure

Hypertension causes or contributes to
- 60% of cerebrovascular disease
- 50% of ischemic heart disease
- 30% of chronic kidney disease

- Hasn’t Big Pharma Solved This Problem? -

- Is The Answer In The Carotid Sinus -

- Sinus Stimulation From The Inside -

MobiusHD™
Carotid Sinus Modulation for HTN
- Tricking the Carotid Sinus Baroreceptors -

- MobiusHD™ is designed to exert just enough radial force on the vessel to reshape it in the diastolic phase and prevent migration in the systolic phase
- Reshaping the vessel increases the differential strain, and therefore the stretch, measured by the baroreceptors with every pulsatile wave, concentrated within the windows of the device

Carotid Sinus Modulation for HTN
- CALM-FIM_EUR Open Label Trial -

- 30 patients with multidrug resistant HTN
- mean of 4.4 +/- 1.2 antihypertensive drugs
- all had successful MobiusHD insertion
- 5 SAEs in 4 patients (13%) at 6 months:
  - hypotension (n=2)
  - worsening hypertension (n=1)
  - intermittent claudication (n=1)
  - access site infection (n=1)

Carotid Sinus Modulation for HTN
- CALM-FIM_EUR Ambulatory Blood Pressures -

Mean baseline 24 hr ABP pressure was 166/100 mm Hg

reduced by 21/12 mmHg (14–29 / 7–16) at 6 months

Carotid Sinus Modulation for HTN
- CALM-FIM_EUR Office Blood Pressures -

Mean OBP was 184/109 mm Hg at baseline

reduced by 24/12 mm Hg (13–34 / 6–18) at 6 months

The Daily Defined Dose (DDD) is the assumed average maintenance dose per day for a drug used for its main indication in adults.
Carotid Sinus Modulation for HTN

- Will enroll 300 patients at up to 75 European & USA centers
- 1:1 randomization to sham procedure or MobiusHD insertion
- Primary effectiveness endpoint @ 6 months by change in ABP
- Safety endpoint @ 3 mos composite of cardiac & neuro events

Mechanical stimulation of the carotid sinus has been demonstrated to effectively lower blood pressure, at least in the short term. The clinical applicability of this effect to treat multidrug resistant hypertension is under active study.