SENTANTE
the first fully robotic endovascular thrombectomy

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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
- [x] Stockholder of a healthcare company, Inovatyvi Medicina
- [ ] Owner of a healthcare company
- [ ] Other(s)

- [ ] I do not have any potential conflict of interest
The problem

6M procedures each year performed the same way as 40 years ago

Health risks for doctors:
• Cancer, cataracts due to X-ray exposure
• Orthopaedic injuries due to heavy aprons
• Fatigue, early retirement
What robots do we have in (endo)vascular field?

- Magellan
- Corindus
- Robocath
Patients
Unmet need: urgent care for Patients

2 million brain cells die every minute

There is no safe time window to restore bloodflow to the brain, every minute counts

<table>
<thead>
<tr>
<th>Onset to recanalization¹</th>
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<tbody>
<tr>
<td>Time to EVT</td>
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<tr>
<td>Rehabilitation, days</td>
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<td>Home discharge</td>
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Early EVT - 70% of patients come back home

No EVT - 90% of patients remain dependent on other people

¹Jeong et al. https://doi.org/10.1002/brb3.830
Hospitals
Unmet need: Hospitals lack skilled doctors 24/7

- Mismatch between increasing number of procedures and available skilled doctors
- Expensive 24/7 shifts
- Early retirement of experienced doctors
- Suboptimal workload:
  - centers of excellence – long waiting lists
  - regional hospitals – insufficient case load
Doctors
Unmet need: doctors’ safety

Innovators in endovascular field are dying from cancer

Roy K. Greenberg
Peritoneum tumor

Edward Dietrich
Brain tumor

Allan W. Reid
Brain tumor
sentante - enabling remote procedures

Compatible with standard shelf instruments

Manipulates 3 instruments simultaneously

Guidewires 0.014” – 0.035”
Catheters 2Fr- 8Fr

An entire procedure could be performed robotically

Tele-surgery
sentante - designed for doctors

Interface: a standard guidewire and two catheters

Real time haptic force feedback

Almost no additional training is needed

Doctor feels the movement/resistance of the instrument

Intuitive controls in a remote workplace
Start of the procedure:
Introducer sheath is being placed
Sentante is attached

The flow of the procedure:
All instruments are manipulated with Sentante
No medical personnel is in Cath-Lab while X-Rays are on
animal tests in a cath-lab

Stenting with monorail and OTW, 0.035” and 0.014” platforms
Endovascular thrombectomy, bench test
Endovascular thrombectomy, animal test
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