

## MP4-15

### **A New Covered Stent for Complex Coarctation.**

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**Introduction:** Recent evidence is providing guidance on the need for covered stent use in lesions such as coarctation of the aorta and right ventricular outflow tract stenting. Currently the only FDA approved covered stent is the Cheatham-Platinum stent, but development in this area is urgently needed.

Andratec have developed the Optimus covered stent as an alternative covered stent for similar clinical indications. This is a laser cut cobalt chromium stent with a double layer of PTFE sandwiching the stent struts. It's hybrid design offers a wider range of expansion with less shortening and potentially more predictable behaviour of the covering.

We describe the first human use of the covered Optimus stent in patients with coarctation of the aorta.

**Methods and Results:** We successfully implanted the Optimus covered stent in 7 consecutive cases in patients whose pre-procedural anatomy looked challenging for currently available covered stents (Fig 1A). Six of the patients had native coarctation with one recoarctation following surgical repair. Median age was 46yrs (range 33-69yrs). There were no significant complications with reduction in the median invasive gradient from 23mmHg to 0mmHg. The length of stents used ranged from 33mm to 57mm with a median shortening after expansion of 13%. Post-procedural follow-up with magnetic resonance imaging or computed tomography has not shown evidence of fracture or migration or re-narrowing (Fig 1B). The median duration of follow-up is 8months.

**Conclusions:** Preliminary results show that the Optimus covered stent is safe and efficacious for use in patients with coarctation of challenging morphology. A systemic trial will be required to evaluate this stent for more widespread practice.