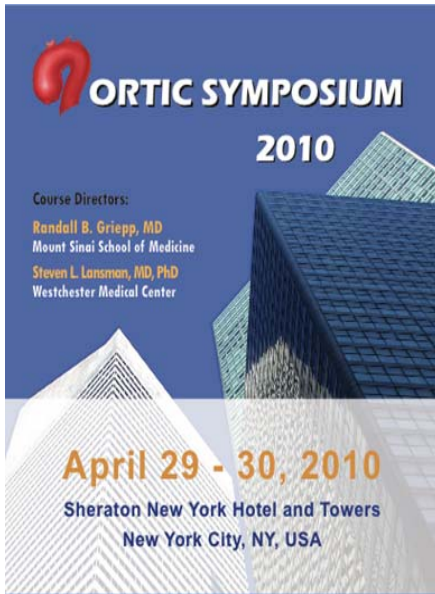


# COMPLEX AORTIC SURGERY AND ENDOVASCULAR PROGRAM: QUARTERLY NEWSLETTER



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## Highlights of Aortic Symposium 2010:

This was the tenth biennial symposium under the direction of Drs. Randall B. Griep and Steven Lansman. This was the second collaboration with AATS with an attendance of more than 1300 physicians. Approximately 40 percent of the physicians represented Europe, Asia, Middle East and Australia. The invited faculty included cardiologists, geneticists, vascular and cardiac surgeons

and endovascular specialists. As expected all aspects of aortic diseases were discussed and represented in the conference. The conference began with a presentation by Dr. Dianna Milewicz from the University of Texas-Houston on the expanding role of genetic testing in syndromic and non-syndromic aortic conditions. She

presented data on various genes (FBN<sub>1</sub>, TGFBR<sub>2</sub>, and TGFBR<sub>3</sub>) that increase the activity of TGF-β signaling that ultimately have a role in pathogenesis of aneurysms. In addition, recent data suggests that mutations in vascular smooth muscle cell specific myosin (MYH11) and actin (ACTA2) can cause the disorder has focused (over)

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## BASICS OF ENDOVASCULAR REPAIR OF THORACIC AORTIC ANEURYSMS (TEVAR)

Thoracic aortic aneurysms (TAA) affect approximately 10 out of 100,000 adults. The true incidence of TAA is difficult to assess because of limited autopsy studies and cause of death registries in the United States. However, the prevalence of TAA seems to be increasing with the proportion of people over the age of 65 increasing,

and ubiquitous imaging studies. In Sweden, the prevalence of TAA is increasing according to their national registries and cause of death registries. The incidence of TAA in both genders has increased (males, 10.7 to 16.3 per 100,000 patient-years and females, 7.1 to 9.1 per 100,000 patient-years) over a period of 15 years.

**BASICS OF ENDOVASCULAR REPAIR OF THORACIC AORTIC ANEURYSMS**

Mount Sinai is a leader in the care of patients with thoracic aortic diseases. The majority of patients with TAA can be managed conservatively however various clinical scenarios, aortic diameters or underlying pathologies may require an intervention. Open surgical repair of TAA has proven to be a durable and safe option for most patients however there are patients with multiple co-morbidities who can not sustain the physiological insult of open surgery.

*Who is a candidate for TEVAR?*

1. Patients who have a TAA that have a life expectancy of > 2 years and are considered high risk for open repair due to age or co-morbidities.
2. Patients with an isolated fusiform descending TAA or distal aortic arch.
3. Patients with symptomatic penetrating ulcers of the descending thoracic aorta.

*Are there anatomic characteristics favorable for TEVAR?*

1. To repair a TAA endovascularly there needs to be

a good landing zone proximal and distal to the aneurysm free of atheroma, dissection or thrombus.

3. Adequate femoral artery access and non-tortuous iliac arteries with minimal calcifications

*What can we do to make a patient a candidate for TEVAR?*

1. Carotid-subclavian artery bypass or total arch replacement to improve proximal landing zone
2. Conduit to the iliac or femoral artery to assist delivery of the stent graft

*Do you need to monitor patients after TEVAR?*

1. Patients should have a CTA or MRA 1, 6 and 12 months after TEVAR and annually thereafter.

*What are the potential advantages and disadvantages of TEVAR?*

*Pros:* Less blood loss, less physiological insult, no thoracotomy, and shorter hospital stay.

*Cons:* stent-graft migration, endoleaks, need for re-intervention and unknown long-term durability

**HIGHLIGHTS OF AORTIC SYMPOSIUM 2010 (CONT.)**

attention on the maintenance of SMC contractile in preserving aortic structure and preventing thoracic aortic dissections.

An update on percutaneous and transapical aortic valve replacement was given by Dr. Lars Svensson from the Cleveland Clinic. It has been reported that 38 to 61% of patients with severe aortic stenosis do not proceed to surgery because of significant co-morbidities. The short-term results from the REVIVAL I and II indicate acceptable results in this high-risk cohort of patients with stroke rates in the range of 2.5 to

9% and mortality in the range of 7 to 17%. The PARTNERS trial preliminary results will not be available until October 2010.

Mount Sinai will be participating in the CoreValve Trial (Medtronic CoreValve, LLC) under the leadership of Dr. David Adams, the US co-principle investigator.

Dr. Czerny (Berne, Switzerland) reported on the mid-term results with thoracic endovascular aortic repairs (n=101) (TEVAR) for atherosclerotic aneurysms from multiple centers in Europe. The overall in-hospital mortality was 4% with an endoleak (type I and

III) rate of 10%. Need for later re-intervention was 14%. Late endoleak was an independent predictor of survival. Late survival was 90%, 82% and 65% at 1, 3 and 5 years.

Dr. Gabriele Di Luozzo presented the 15 year experience with the 597 Bentall operations. The overall mortality was 4.7%. Independent factors predictive of in-hospital mortality were emergency operation, clot, smoking, re-operation and CABG. Patients with no independent risk factors had an operative mortality of zero.



**CONSULTATIONS TO THE AORTIC CLINIC/SERVICE OR ARRANGE TRANSFERS FOR EMERGENCIES:**

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