Mount Sinai

# Complex Aortic Surgery and Endovascular Surgery Program: Quarterly Newsletter

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## *Acute Aortic Dissections*

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An acute aortic dissection (AAD) is characterized by the presence of an intimal tear, which allows blood to cleave a false channel in between the media and adventitia (Figure 1). The type of acute aortic dissection is defined by the location of the intimal tear and propagation of the false lumen. There are two main classification systems used in clinical practice: DeBakey and Stanford. The DeBakey classification links the given tear with a given direction and extent of propagation. The more simplistic organization is the Stanford classification, which is based on the presence (type A) or absence (type B) of the false lumen in the ascending aorta. In clinical practice, variations in the site of the intimal tear and propagation are noted.

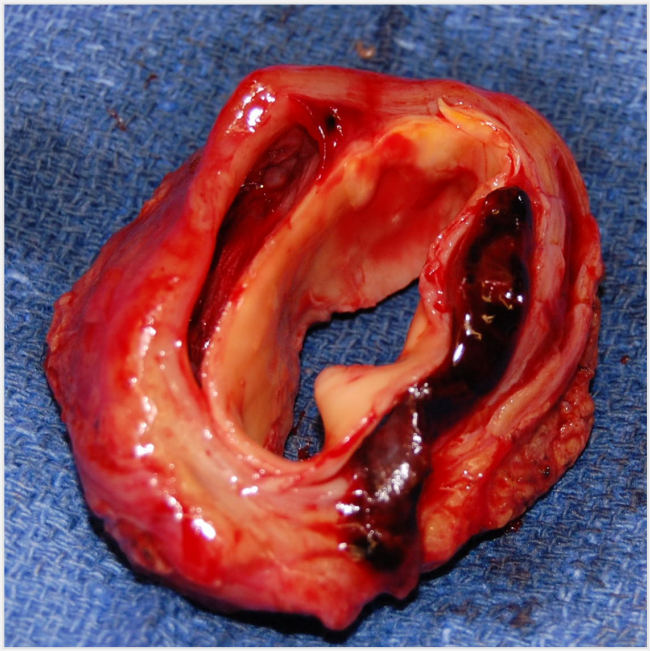

**Figure 1. Demonstration of a false channel and thrombus in the aortic wall of a patient operated at Mount Sinai for an acute dissection.**

We evaluated our approach to acute dissections which included a pre-operative and intra-operative identification of the intimal tear on short and long-term outcomes. In addition, we examined the clinical applicability and significance of current aortic dissection classification when subtypes of dissections were considered. The location of the intimal tear was examined in 168 patients with acute aortic dissections at Mount Sinai over a 7-year period. There were 139 type A and 29 type B dissections. The location of the intimal tear was remarkably variable: ascending aorta (ASC), 83 cases, aortic arch (ARCH), 32 cases, descending aorta (DESC), 26 cases, multiple tears, 11 cases, no tear, 6 cases and not noted, 7 cases.

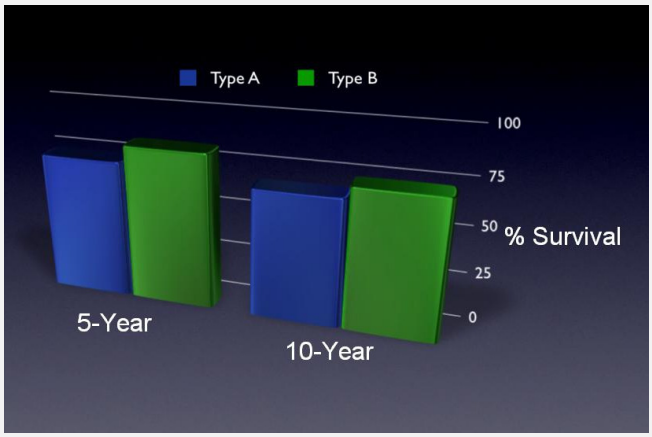


**Figure 2. Long-term survival of patients with Type A and B aortic dissection**

The long-term survival of patients after Type A and Type B dissection was not significantly different (Figure 2). The location of the intimal tear had a negative impact on survival especially if the tear was located in the arch (Figure 3). Aorta- event free survival was not different between type A and B aortic dissections. Contrary to other studies, we did not appreciate a survival difference in type or subtype of dissection based on the patency of the false lumen. The false lumen patency was significantly greater in Type A than Type B dissections.

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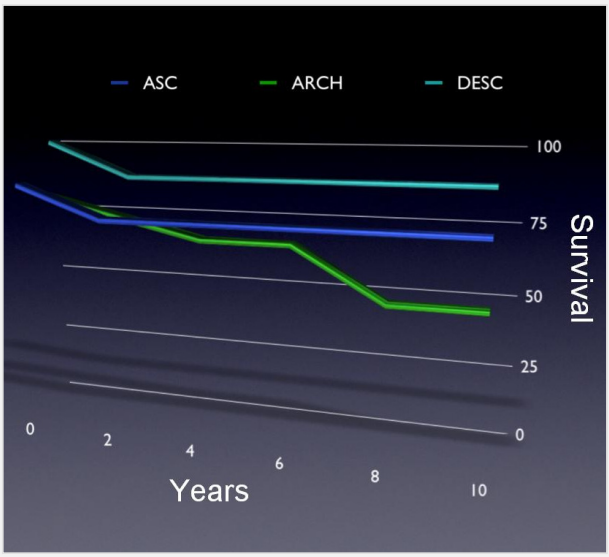


**Figure 3. Long-term survival of patients with Type A based on tear location.**

### Key Points:

- Patients who suffer an acute aortic dissection do not share a similar long-term survival compared to age-sex matched population.
- Two functional anatomic variables defining aortic dissections are origin and propagation of false lumen.
- Current classifications link the intimal tear to the direction and propagation of the false lumen which may have little clinical significance and prediction of long-term outcome.
- Stanford classification is limited by it's simplicity.
- Thirty-nine percent of Type A dissections did not have an intimal tear in the ascending aorta--which is a common assumption.
- Ideal classification should describe origin and propagation independently.
- Aortic arch-type A dissection 10-year survival was lower probably reflecting the older age of these patients.
- Aorta-event free survival was favorable using this surgical approach.

## Bulletin Board

**Monthly Mutli-disciplinary Aortic Conference:**
**1st Wednesday of the month at 5pm**
**Location: Annenberg, MC level, Radiology Education Conference Room**


**New Consultations/Aortic Aneurysm Program/Surveillance Program**
**(212) 659-9495**
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### Faculty Members

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