gastroenteritis, mononucleosis, viral meningitis, pneumonia, scarlet fever, subcutaneous abscess, tonsillitis, urinary tract infection, and varicella occurred in 1 patient each. No deaths, malignancies, tuberculosis, or opportunistic infections were reported with either treatment.

Aneurysm Size Does Not Predict Dissection or Rupture in GCA

Written by Toni Rizzo

The aorta and its branches are involved in about 30% of patients with giant cell arteritis (GCA) [Nuenninghoff DM et al. *Arthritis Rheum* 2003]. Patients with GCA have a 17-fold risk for developing a thoracic aortic aneurysm and a 2.4-fold risk for developing an abdominal aneurysm [Evans JM et al. *Ann Intern Med* 1995]. Aortic aneurysm in GCA is poorly understood, with few data on risk and predictors of dissection and rupture. The current guidelines for monitoring and management of aortic aneurysm do not address this unique population.

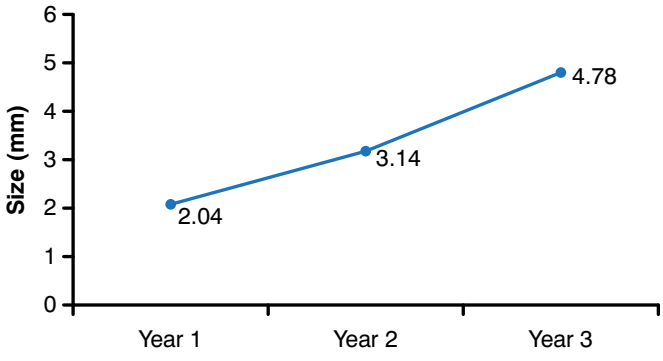
This retrospective study, presented by Ashima Makol, MD, Mayo Clinic, Rochester, Minnesota, USA, had 3 objectives: (1) to systematically study aortic dissection in patients with GCA with aortic aneurysms, (2) to describe the clinical features and outcomes of aortic dissection in patients with GCA, and (3) to determine the average growth rate of aortic aneurysms and identify aneurysm size associated with aortic dissection.

The study involved patients with GCA diagnosed at the Mayo Clinic between 2000 and 2012. Data were collected from the records of patients diagnosed with GCA and aortic aneurysms with aneurysm size measured on aortic imaging. Abstracted data included clinical characteristics at diagnosis of aneurysm, aortic aneurysm dimensions at diagnosis and on follow-up imaging, and clinical presentation at the time of dissection or rupture.

A total of 195 patients with GCA and aortic aneurysms were identified, 161 (82%) in the ascending thoracic aorta, 21 (11%) in the descending thoracic aorta, and 13 (7%) in the abdominal aorta. The mean patient age was 74 years, and 62% of patients were women. The overall mean aortic size at diagnosis was 49.3 mm. The average aneurysm overall growth rate was 1.59 mm/year for the first 3 years after diagnosis. Growth rates at 1, 2, and 3 years from baseline were 2.04, 3.14, and 4.78 mm, respectively (Figure 1).

A total of 14 aortic dissections and 1 rupture were reported, all involving the thoracic aorta. The most common presenting symptoms were chest pain (75%) and syncope (18%). Patients with aortic dissection or rupture had similar characteristics to the baseline cohort. Drugs used at the time of dissection or rupture included glucocorticoids (58%), methotrexate (8%), β-blockers (83%), aspirin (67%), statins (33%), and angiotensin-converting enzyme inhibitors (50%).

Figure 1. Average Aneurysm Growth From Baseline



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The mean maximal aneurysmal dilation at the time of dissection or rupture was 54±11 mm (range, 41-80 mm). The size of the aneurysm at the last follow-up was not predictive of dissection or rupture; intact aneurysms were a mean 50±11 mm (p=0.72). There was no difference in aneurysm size at diagnosis between dissected or ruptured aneurysms (51±10 mm) and those that did not dissect or rupture (49±11 mm) (p=0.47).

Emergent surgical repair was performed in 8 of 15 patients (57%) with dissection or rupture (88% in the ascending aorta). Medical management was attempted in 7 of 15 (47%), but 4 required surgical intervention. The overall mortality rate at 30 days was 14%.

There was an 8% incidence of acute aortic syndrome in this cohort of patients with GCA. The data analysis showed that dissection can occur at any size and that aortic size at diagnosis or follow-up did not predict dissection or rupture. This study demonstrated that acute aortic syndrome in patients with GCA has a significant risk for mortality.

Higher Risk of Aortic Complications in GCA Patients With Positive PET

Written by Toni Rizzo

Aortic complications are an important cause of death in patients with giant-cell arteritis (GCA). According

to Hubert de Boysson, MD, Centre Hospitalier et Universitaire Cote de Nacre, Caen, France, extracranial involvement of large vessels in patients with GCA probably is underdiagnosed.

18-fluoro-deoxyglucose (FDG) positron emission tomography (PET) offers good sensitivity for the detection of large vessel involvement in patients with GCA [Blockmans D et al. *Arthritis Rheum* 2006; Besson FL et al. *Eur J Nucl Med Mol Imaging* 2011]. The objectives of this study were to characterize large vessel involvement using PET in a cohort of patients with GCA, describe the patients who had aortic complications, and identify factors associated with aortic complications.

Patients included in this retrospective observational study met at least three American College of Rheumatology (ACR) criteria for GCA (or two criteria plus extra-temporal biopsy-proven giant-cell vasculitis), had at least one PET at diagnosis or during follow-up, and had an aortic morphology assessment at diagnosis and during follow-up. Patients with aortic complications at diagnosis were excluded. A positive PET was defined as FDG vascular uptake superior to the liver in at least one of the following vascular segments: thoracic or abdominal aorta, or subclavian, axillary, carotid, upper limb, ilio-femoral, or lower limb arteries.

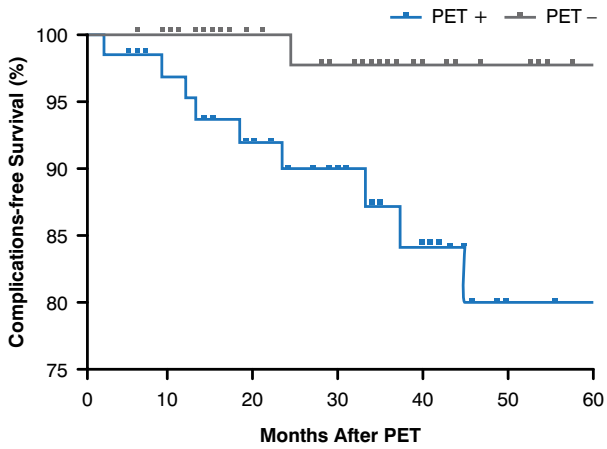
In total, 129 patients met the criteria and were followed for 35 months. Baseline characteristics, clinical characteristics and cardiovascular risk factors were similar in the entire cohort between patients with aortic complications and those without complication. Among the 129 patients, 65 (50%) had PET at diagnosis (ie, before or in the 10 first days of the treatment) and 64 (50%) had PET during follow-up. Aortic complications occurred in a total of 10 patients: 6 patients (60%) who had PET at diagnosis and 4 patients (40%) who had PET during follow-up.

Sixty-four (50%) patients had a positive PET (55% at diagnosis, 44% during follow-up). The three most-involved vascular areas were thoracic aorta (81%), subclavian arteries (73%), and abdominal aorta (58%). Nine of the 10 patients with aortic complications had a positive PET compared with 55 of 119 patients without complications (90% vs. 46%, p=0,008). Complications occurred at a median time of 19.5 (range, 3 to 43) months after PET and 27.5 (3 to 180) months after diagnosis. In the univariable analysis, patients with a positive PET had a significantly higher risk of developing aortic complications as compared with those with a negative PET (HR, 9.2; 95% CI, 1.2 to 72.7; p=0.01; Figure 1).

Among the 10 patients with aortic complications, the thoracic section was of a concern for 9 patients (8 had thoracic aorta dilatation or aneurysm, and 1 had aortic dissection), whereas 1 patient had an abdominal aorta aneurysm. Patients with a positive PET versus those with a negative PET had more extra-cephalic manifestations (64% vs 37%; p=0.002) and fewer cephalic symptoms (72% vs 89%; p=0.01). There were 7 deaths, including 2 from strokes, 2 from myocardial infarctions, 1 from colitis, 1 from pneumonia, and 1 from limb ischemia. Three of 5 patients with a cardiovascular event had a positive PET.

This study suggested that patients with GCA who had a positive PET at diagnosis or during follow-up had a higher risk of developing aortic complications. These patients had an atypical presentation with more extra-cephalic symptoms and fewer cephalic manifestations than is typically observed in GCA. Prospective studies are needed to confirm these results.

Figure 1. Risk of Aortic Complications in Patients With a Positive Versus Negative PET



Number at risk							
PET +	66	60	47	38	28	15	14
PET –	63	59	46	40	30	20	20

PET=positron emission tomography.

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Study Confirms Biosimilarity of HD203 and Etanercept in Patients With RA

Written by Toni Rizzo

The new agent HD203 is a biosimilar of etanercept, a recombinant fusion protein that blocks tumor necrosis factor activity. The amino acid sequence of HD203 is identical to that of etanercept and is produced by the same method. A Phase 1 trial in healthy volunteers indicated that the pharmacokinetics, safety, and tolerability