

TOPICS IN ATRIAL FIBRILLATION

Establishment of UVa's Atrial Fibrillation Center



In this first newsletter, I want to introduce you to the Atrial Fibrillation Center at the University of Virginia. This center was established in June, 2004 after the Electrophysiology Section of the Cardiovascular Division received a Buchanan Grant from UVa earlier in that year. This selection was based in part upon our long experience (>10 years) with research and innovative treatments (such as radiofrequency ablation) for patients with atrial fibrillation.

The overall goals of the Atrial Fibrillation Center are:

- To be a comprehensive educational resource for physicians and patients on atrial fibrillation
- To provide the best state-of-the-art treatments for patients with atrial fibrillation
- Have the ability to measure and compare outcomes of different treatment modalities
- Maintain and enhance our national and international leadership in the treatment of atrial fibrillation

We have a dedicated team of professionals (physicians [electrophysiologists], nurse practitioner, research coordinator, clinic nurses, EP Lab nurses and technicians and administrative assistant) who focus on the management of patients with atrial fibrillation.

Atrial fibrillation is a very common disorder, affecting an estimated 2.4 million people in the United States alone. We are continuing to learn more and more about this disorder and there are many treatment options available; however, we believe the treatment must be individualized carefully to your particular situation.

Our hope is that the Atrial Fibrillation Center with its website (www.afibcenter.org) and this bimonthly newsletter will help to inform you about the latest topics and information about atrial fibrillation.

J. Michael Mangrum, MD
Director, Atrial Fibrillation Center

WHAT'S NEW IN ATRIAL FIBRILLATION

Catheter Ablation for Atrial Fibrillation in Congestive Heart Failure. Hsu LF, et al. New England Journal of Medicine. 2004; 351:2373-83.

This study evaluated patients with congestive heart failure, a low ejection fraction (<45%) and atrial fibrillation. *Findings:* Curative catheter ablation for AF in patients with heart failure allowed for maintenance of sinus rhythm without the need for anti-arrhythmic drugs, which often have harmful effects on heart function. Maintenance of sinus rhythm was associated with improved left ventricular function, symptoms and quality of life.

Obstructive Sleep Apnea and the Recurrence of Atrial Fibrillation. Kanagala R et al. Circulation. 2003;107:2589-94.

This study looked at patients with obstructive sleep apnea (OSA) and AF. *Findings:* Patients with untreated OSA had

higher recurrence of AF after cardioversion. If patients were treated with continuous positive airway pressure (CPAP) they had lower likelihood of recurrence after cardioversion.

Genome-Wide linkage Scan Identifies a Novel Genetic Locus on Chromosome 5p13 for Neonatal Atrial Fibrillation associated with Sudden Death and variable Cardiomyopathy. Oberti, C et al. Circulation. 2004;110:3753-59.

This study looked at a large family with an autosomal recessive inheritance pattern of AF. *Findings:* AF can be inherited as an autosomal recessive trait. A genetic link between AF and prolonged P-wave duration was identified. A novel genetic locus for AF was found on chromosome 5p13.

ASK THE EXPERT - Is atrial fibrillation hereditary?

Answer: This is an excellent question! This is often asked by patients with atrial fibrillation (AF) who also have family members with atrial fibrillation. Most of the time atrial fibrillation is considered to be secondary to other conditions such as high blood pressure, thyroid conditions, valvular heart disease or heart failure. Often one or more of these conditions are common in family members and contribute to development of AF.



However, there are some patients who have atrial fibrillation without any underlying cause (often referred to as lone atrial fibrillation). In the early 1940's it was noted that atrial fibrillation can be familial or inherited, and later investigation of inherited AF focused primarily on patients with lone atrial fibrillation.

As a result, several chromosomes (chromosome 10q22-24, 6q14-16, and 3p22) have been identified as potential locations for atrial fibrillation (Ellinor et al, Circ. 2003; 107(23):2880-3, Brugada et al., NEJM1997; 336:905-11). Chromosomes are the part of the cells in the body that carry or house the genes. Genes are made of DNA and control hereditary characteristics. The studies suggest that in some cases, there may be a mutation or aberration in one or more genes on certain chromosomes that lead to atrial fibrillation. Supporting these findings, a group of researchers using the Framingham study participants observed that having at least one parent with AF nearly doubled the risk of predicted AF development in the offspring, particularly when they had no obvious heart disease (Fox et al., JAMA 2004; 291(23):2851-55). Further study is needed to identify other potential chromosome loci and specific genes involved (Darbar et al., JACC 2003; 41(12):2185-92).

So, in short, the answer to the question is: In some cases, it does appear that there is a hereditary propensity for AF.

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We will feature one patient question with an answer from one of our team members every two months in our newsletter. If you have a question please email it to VLS9C@virginia.edu and we will try to answer it as soon as possible.