

THE AFIB REPORT

Your Premier Information Resource for Lone Atrial Fibrillation!

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A team of British and Polish researchers has summarized the current knowledge about lone atrial fibrillation. This makes for a very interesting review, although most of the conclusions will not come as any surprise to regular readers of "The AFIB Report". Nor will it come as a surprise that a very large study involving over 13,000 afib patients concludes that warfarin therapy is more likely to be harmful than beneficial for lone afibbers with 1 or 0 risk factors for ischemic stroke. As a matter of fact, the only afibbers likely to benefit significantly from anticoagulation are those over the age of 85 years and those who have suffered a previous ischemic stroke or TIA (transient ischemic attack).

Also in this issue we report that flutter and SVT ablations have a high rate of success, that dabigatran (Pradax) may be a viable alternative to warfarin, that a low testosterone level is common among male afibbers, and that the risk of developing atrial fibrillation is closely linked to body size.

Last, but certainly not least, an article by Antonio Contardo, a Spanish member of our afib community who reports on his success controlling afib by adhering to the so-called "Dissociated Diet", which is based on careful food combining.

Finally, I would like to bring to your attention a couple of sources of information on our afibbers.org web site. For more specific information about a wide variety of topics related to afib, I invite you to visit our virtual Conference Room, which now contains the proceedings of 66 in-depth sessions. You can find the Conference Room at <http://www.afibbers.org/conference/index.htm>.

To find the answers to most of your questions about lone AF don't forget to check out "Frequently Asked Questions" at <http://www.afibbers.org/faq.htm>.

If you need to restock your supplements, please remember that by ordering through my on-line vitamin store you will be helping to defray the cost of maintaining the web site and bulletin board. You can find the store at <http://www.afibbers.org/vitamins.htm> - your continuing support is truly appreciated.

Wishing you lots of NSR,

Hans

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Effectiveness of flutter and SVT ablations

BURLINGTON, VERMONT. A team of researchers from Vermont College of Medicine, Beth Israel Deaconess Medical Center, and Johns Hopkins University School of Medicine has released a study aimed at determining the effectiveness of radiofrequency catheter ablation procedures for typical right atrial flutter (AFL) and atrioventricular node-dependent supraventricular tachycardia (SVT)

including accessory pathways. Their meta-analysis included 18 primary studies involving 1323 patients with AFL and 39 primary studies involving 7693 patients with SVT.

During the period 1995 to 2007 the single procedure success rate for AFL was 91.7%. Eight percent of patients went on to have one or more additional ablations, which brought the multiple procedure success rate to 97%. No procedure-related deaths were reported, but 0.5% of patients did experience an adverse event, most commonly atrioventricular block and pericardial effusion. The single procedure success rate was improved from 90.3% in the period 1995 to 1997 to 94.5% in the period 2004 to 2007. In contrast, a study by Dr. Andrea Natale's group found that, while only 6.4% of AFL patients having undergone RF ablation experienced flutter during a 21-month follow-up, 60% of patients treated with Class 1 (propafenone, flecainide, disopyramide) or Class 3 (amiodarone, sotalol, dofetilide) antiarrhythmics experienced recurrence of flutter. Thus, it is not surprising that the official guidelines for the management of AFL strongly endorse RF ablation over drug therapy.

During the period 1995 to 2007 the single procedure success rate for SVT was 93.2%. In 6.5% of patients repeat ablations were needed bringing the final, multiple procedure success rate to 94.6%. Post-ablation arrhythmias were observed in 5.6% of patients. Procedure-related mortality was 0.03% with 2 deaths occurring among 2267 patients

treated for accessory pathways including Wolff-Parkinson-White syndrome. Adverse events were experienced by 2.9% of patients with atrioventricular block and need for pacemaker installation being the most common. The single procedure success rate for atrioventricular node-dependent SVT improved from 92% in the period 1995-1997 to 97.3% in the period 2001-2003. Antiarrhythmics such as flecainide, propafenone, sotalol and dofetilide have been found to reduce frequency of SVT episodes by 70% to 80% compared to placebo. However, only 50% to 60% of patients with SVT were able to remain in sinus rhythm with drug therapy. These findings are reflected in the 2003 guidelines for SVT management, which recommends RF catheter ablation as first-line treatment. NOTE: All the medical doctors participating in this study have financial ties to medical device companies involved in the manufacturing and marketing of ablation catheters.

Spector, P, et al. Meta-analysis of ablation of atrial flutter and supraventricular tachycardia. American Journal of Cardiology, Vol. 104, 2009, pp. 671-77

Editor's comment: This extensive meta-analysis confirms the efficacy and safety of radiofrequency catheter ablations for typical right atrial flutter and supraventricular tachycardias. However, this does not mean that a prospective ablatee should not seek out the best available electrophysiologist to do the procedure in order to ensure maximum chance of success.

Lone atrial fibrillation: Summary of current knowledge

GDANSK, POLAND. A team of British and Polish researchers has summarized the current knowledge about lone atrial fibrillation. Among the highlights of their findings are:

- About 4.5 million people in the European Union suffer from atrial fibrillation (AF).
- Lone atrial fibrillation (LAF) constitutes between 1.6 and 11.4% of all cases of AF.
- The estimated risk of progression from paroxysmal LAF to permanent LAF is about 29% over 30 years.
- LAF in patients with normal left atrial volume at initial diagnosis has a benign clinical course over long-term follow-up.
- Men comprise about 78% of the LAF population.
- Lone afibbers are more likely to have a first-degree family member with afib than are those with AF.
- Lone afibbers are statistically taller and leaner than other patients with AF. NOTE: This conclusion is based on PC's article "Lone Atrial Fibrillation: Pathologic or Not?" which in turn is based on our LAF Survey 11.
- Lone afibbers whose episodes are caused by acute stress revert to normal sinus rhythm quicker than do afibbers whose episodes are caused by other triggers.
- Participation in endurance sports has been linked to an increased incidence of LAF.
- Sleep apnea syndrome is associated with an increased incidence of LAF.

- LAF can be initiated by several common drugs.
- The level of brain natriuretic peptides (BNPs) is significantly increased among lone afibbers, but decline markedly after a successful electrical cardioversion.
- There is an association between inflammation and LAF, but it is not clear whether inflammation causes afib or afib causes inflammation.
- In patients with LAF the risk of thromboembolism (stroke and transient ischemic attacks) is low without treatment and anticoagulation with warfarin is not recommended unless patients have specific risk factors for stroke.
- There is no evidence that aspirin therapy is beneficial for lone afibbers. A recent Japanese trial concluded that the administration of 150 – 200 mg of aspirin daily for stroke prevention is neither effective nor safe in lone afibbers.
- There is some indication that statin drugs may help prevent recurrence of afib following a successful cardioversion.

The research team in the last table of their report makes quite clear that there is a very distinct

difference between the pathological form of AF (about 90% of cases) and LAF. The main comorbid conditions associated with AF are heart failure, hypertension, valve abnormalities, cardiomyopathies, cardiac ischemia, diabetes, and thyroid disease. In contrast, the main factors associated with LAF are male gender, familial predisposition, genetic factors, stress, alcohol consumption (binge drinking), participation in endurance sports, sleep apnea, systemic inflammation and possibly, concealed cardiac dysfunction.

Kozlowski, D, et al. Lone atrial fibrillation – What do we know? Heart, August 26, 2009 [Epub ahead of print]

Editor’s comment: Although the findings reported in this study are generally not new to readers of *The AFIB Report*, it is valuable to have them all condensed into one review. It is unfortunate though that the authors completely ignore the importance of electrolyte imbalances as a major cause of LAF. A recent study found that close to 90% of all lone afibbers are deficient in magnesium and many afibbers have found that supplementation with magnesium, potassium and taurine is very helpful in preventing ectopics and episodes.

Finally – A replacement for warfarin?

HAMILTON, ONTARIO, CANADA. Although there is no evidence that otherwise healthy lone afibbers have an increased risk of ischemic stroke, it is clear that atrial fibrillation (AF) patients with heart failure, diabetes or hypertension have a significantly increased risk and this risk is further magnified if the patient has already suffered a heart attack or stroke. To date, oral anticoagulation with vitamin K antagonists such as warfarin (Coumadin) is still considered to be the best preventive therapy for patients at risk for stroke. Unfortunately, warfarin interacts with many foods and drugs and treatment requires constant, costly monitoring. Its use also substantially increases the risk of hemorrhagic stroke and major internal bleeding, particularly in older people, a group that, ironically, is also most at risk for an ischemic stroke. It is therefore not surprising that a vast amount of medical research is being directed at finding a replacement for warfarin.

Warfarin acts by inhibiting the activation of the vitamin K-dependent coagulation factors V, VII, and X in the extrinsic and common pathways of the

coagulation cascade. Research aimed at replacing warfarin essentially focuses on developing new pharmaceutical drugs which will inhibit specific coagulation factors. A new direct thrombin inhibitor dabigatran etexilate (Pradax) has successfully undergone 3 large-scale phase III trials for the treatment of deep vein thrombosis (DVT). A recent trial involving 502 AF patients with at least one additional risk factor for stroke found that 150 mg of dabigatran twice a day is as effective and safe as standard warfarin therapy.

Now a very large group of researchers from 41 countries reports on a trial involving over 18,000 atrial fibrillation patients who had one or more risk factors for stroke (average CHADS2 score was 2.1). NOTE: 79% of the participants had hypertension, 32% had heart failure, 20% had experienced a prior heart attack or stroke, and 23% had diabetes. The study participants were randomly allocated to receive 110 or 150 mg of dabigatran twice daily or standard warfarin therapy (INR range aim of 2.0 to 3.0). The patients were re-examined 2 weeks and 1

and 2 months after randomization, every 3 months thereafter in the first year, and then every 4 months until the end of the 2-year follow-up period. The INR of warfarin users was checked monthly, but no monitoring of blood levels of dabigatran was required.

A comparison of the incidence of ischemic stroke and systemic embolism, hemorrhagic stroke, major bleeding, heart attack, and overall mortality is shown below:

	Warfarin INR 2.0-3.0	Dabigatran 110 mg twice daily	Dabigatran 150 mg twice daily
Ischemic stroke & embolism	1.69	1.53	1.10
Hemorrhagic stroke	0.38	0.12	0.10
Heart attack	0.53	0.72	0.74
Major bleeding	3.36	2.71	3.11
Overall mortality	4.13	3.75	3.64

It is clear that dabigatran, either at 110 mg or 150 mg twice daily, gives better protection against strokes (ischemic and hemorrhagic) and bleeding than does warfarin, although a slightly increased risk of heart attack (myocardial infarction) was noted at both levels of dabigatran. There was a significantly higher rate of major gastrointestinal bleeding with dabigatran at the 150 mg dose than with warfarin (1.51%/year versus 1.02%/year).

Adverse events were similar in the 3 groups except in the case of indigestion (dyspepsia) which was experienced by about 11.5% of dabigatran users versus only 5.8% among warfarin users. Several other direct thrombin inhibitors, most prominent among them, ximelagatran, proved to cause liver toxicity and, for this reason, has not been approved by the FDA for treatment of atrial fibrillation. In this 2-year long trial there was no indication that dabigatran caused a greater elevation of liver enzymes (alanine aminotransferase and aspartate aminotransferase) than did warfarin.

The researchers conclude that low-dose dabigatran (110 mg twice daily) is associated with an ischemic stroke rate similar to that obtained with warfarin, but results in a lower incidence of hemorrhagic stroke and major bleeding. High-dose dabigatran (150 mg twice daily) is superior to warfarin when it comes to preventing ischemic and hemorrhagic stroke, but has a similar rate of major hemorrhage. NOTE: The description of the financial ties between the authors of this report and the pharmaceutical industry takes up half a page of fine print!

Connolly, SJ, et al. Dabigatran versus warfarin in patients with atrial fibrillation. New England Journal of Medicine, Vol. 361, September 17, 2009, pp. 1139-51

Editor's comment: Dabigatran (Pradax) looks promising indeed as a replacement for warfarin in the treatment of afib patients with multiple risk factors for ischemic stroke. However, there is no evidence whatsoever that lone afibbers with no stroke risk factors would achieve an overall benefit by taking this drug.

Few afibbers benefit from warfarin

BOSTON, MASSACHUSETTS. Despite several studies unequivocally showing that anticoagulation therapy does not benefit, but may actually harm, lone afibbers with none or, at the most, one risk factor for ischemic stroke, warfarin is still widely prescribed for this patient population. A study just released by a team from Massachusetts General Hospital, University of California, and Kaiser Permanente of Northern California will, hopefully, go a long way towards banishing the excessive prescription of warfarin (Coumadin) for lone

afibbers. The California study involved 13,559 patients with nonvalvular atrial fibrillation who were followed for 6 years, accumulating a total of over 66,000 person-years of actual experience on warfarin usage in AF. At entry to the study about 53% of the patients were on warfarin.

In past studies aimed at proving the benefits of warfarin therapy among afibbers the focus has been entirely on the prevention of ischemic stroke with no, or very scant, attention paid to the harm done by

the drug. The California study takes a bold step forward in this respect in that it introduces a new concept “net clinical benefit”. In other words, it considers both the benefit (reduction in ischemic stroke) and harm (increase in hemorrhagic stroke) in administering the drug. Net clinical benefit (NCB) is defined as:

$$\text{NCB} = (\text{TE rate off warfarin} - \text{TE rate on warfarin}) - W \times (\text{ICH rate on warfarin} - \text{ICH rate off warfarin})$$

- **TE rate** is the annualized rate of thromboembolic events (ischemic stroke and systemic emboli)
- **W** is a weighting factor designed to reflect the fact that the consequences of a hemorrhagic stroke (intracranial bleeding) is far more serious than that of an ischemic stroke. The authors used a W equal to 1.5.
- **ICH rate** is the annualized rate of intracranial bleeding (incl. hemorrhagic stroke).

During the 6-year follow-up there were 407 thromboembolic events, 93% of which were ischemic strokes, in the total group treated with warfarin vs. 685 in patients not receiving warfarin, resulting in annualized TE rates of 1.25% and 2.29% respectively. ICH rates were 0.33% and 0.57% respectively. Not surprisingly, the net clinical benefit of warfarin therapy was highest for patients with a serious risk of stroke and negligible to negative in other cases. Thus, afibbers with a CHADS2 score (this score assigns 1 point each for congestive heart failure, hypertension, age 75 years or older and diabetes, and 2 points for previous stroke or TIA) of 0 (no risk factors for stroke) had a NCB of -0.11% indicating that for this group, which includes most lone afibbers, warfarin therapy is actually more likely to be harmful than beneficial. The likelihood of harm was particularly strong among those aged 65 years or less where the NCB was -0.25%. On the other hand, for patients over the age of 85 years, NCB was a positive 2.34% and for those who had already suffered a stroke it was 2.48%.

The researchers conclude that the net benefit of warfarin therapy is essentially zero in atrial fibrillation patients with a CHADS2 score of 0 or 1, i.e. with, at the most, one risk factor for ischemic stroke.

In an accompanying editorial Drs. Robert Hart and Jonathan Halperin make the following salient statements:

- The authors failed to include major gastrointestinal bleeding as a negative impact of warfarin therapy. Had they done so the NCB would likely have been smaller.
- The annual rate of ischemic stroke among afibbers with one stroke risk factor was only 1.2% even without warfarin therapy. Editor’s note: This number is far lower than the 4 to 5% per year reported in the original studies aimed at proving the benefits of warfarin in stroke prevention.
- Participants with CHADS2 scores of 0 and 1, about half of the afibbers in the study, gained no benefit from warfarin.

*Singer, DE, et al. The net clinical benefit of warfarin anticoagulation in atrial fibrillation. **Annals of Internal Medicine**, Vol. 151, September 1, 2009, pp. 297-305*

*Hart, RG and Halperin, JL. Do current guidelines result in overuse of warfarin anticoagulation in patients with atrial fibrillation? **Annals of Internal Medicine**, Vol. 151, September 1, 2009, pp. 355-56*

Editor’s comment: Ever since I first began researching the role of warfarin in stroke prevention among lone afibbers, I invariably arrived at the conclusion that for a lone afibber with none or, at most, one risk factor for ischemic stroke warfarin therapy is contra-indicated. Not only is warfarin not beneficial in this patient group, but considering its many potential adverse effects (hemorrhagic stroke, major gastrointestinal bleeding, serious interactions with foods and herbs, arterial calcification, osteoporosis, skin necrosis, and serious eye damage in patients with age-related macular degeneration) and the difficulty in maintaining INR within the prescribed range, it is likely to cause more harm than good. It is indeed rewarding to see this conclusion confirmed by such a large and well-designed study.

Incidentally, in my book *Thrombosis and Stroke Prevention* written 5 years ago I introduced the idea of net clinical benefit (NCB) (pages 66-68) and found that an afibber with a CHADS2 score of 0 (no risk factors) would have a NCB of -0.01%. Had I used a weighting factor of 1.5 for hemorrhagic stroke, the NCB would have been -0.13% for an afibber with no risk factors; very close to the -0.11% quoted in the California study.

Low testosterone levels in male afibbers

HANGZHOU, CHINA. In May 2002 Italian researchers reported that blood levels of dehydroepiandrosterone (DHEA) are significantly lower in men with atrial fibrillation (AF) than in afib-free controls. DHEA is an important precursor of many hormones including testosterone. Now a group of Chinese cardiologists has discovered that men with lone atrial fibrillation tend to have lower testosterone levels than do men free of afib.

Their study involved 58 men who had been diagnosed with paroxysmal (96.6%) or permanent (3.4%) lone afib. The average age at first diagnosis was 39 years and age at enrolment in the study was 46 years. All the men had structurally normal hearts and were not hypertensive or overweight. Average left ventricular ejection fraction was excellent at 71% and average left atrial diameter was 37.5 mm. Blood samples were drawn from the 58 men and from a control group of 58 healthy, male outpatients and levels of testosterone and estradiol compared.

The lone afibbers were found to have a significantly lower level of testosterone (476 ng/dL) than did members of the control group (514 ng/dL). There was no significant difference in estradiol levels (31.9 pg/mL vs. 32.4 pg/mL). The Chinese researchers conclude that men with low testosterone levels may have a greater susceptibility to developing lone AF. They also point out that the increased release of atrial natriuretic peptide (ANP) resulting from cardiac overload is reduced by testosterone.

Lai, J, et al. Reduced testosterone levels in males with lone atrial fibrillation. Clinical Cardiology, Vol. 32, 2009, pp. 43-46

Editor's comment: Could supplementation with DHEA or testosterone be beneficial for lone afibbers? As far as I know, no research has been carried out in this area. However, men with prostate problems, including cancer, should not supplement with DHEA or testosterone without very close medical supervision since doing so may further aggravate benign prostatic hyperplasia (BNP) and cancer as both rely heavily on testosterone and its metabolite, dihydrotestosterone, to fuel cell growth.

Interrupted sleep and arrhythmias

CLEVELAND, OHIO. Abnormal breathing during sleep or sleep-disordered breathing (SDB) is fairly common among older men. There are three main varieties of SDB – central sleep apnea (CSA), obstructive sleep apnea (OSA), and hypoxia. CSA is defined as cessation of airflow (breathing) for 10 seconds or longer without an identifiable respiratory effort during the period of airflow cessation. CSA occurs when the brain forgets to send a signal to the chest muscles and diaphragm, which usually forces air in and out of the lungs, and thus breathing ceases until the brain “wakes up” again. OSA is closely related to but much more common than CSA and occurs when the brain sends the signal to breathe and the muscles obey, but the flow of air is obstructed by an overly relaxed tongue or throat muscles. Snoring is often a cardinal feature of OSA. Hypoxia involves a deficiency in oxygen saturation, which can lead to SDB.

Researchers at Case Western Reserve University School of Medicine now report that there is a distinct association between arrhythmias and SDB. Their study is part of the Outcomes of Sleep Disorders in Older Men study which took place

between the years 2003 and 2005 and involved 2917 men aged 65 years or older. The men all underwent in-home sleep studies using a portable polysomnography unit (Safiro, CompuMedics Ltd). The severity of SDB was expressed by the RDI (respiratory disturbance index), which is the number of OSAs, CSAs and hypoxia episodes occurring per hour of sleep.

The researchers observed a strong correlation between the occurrence of atrial fibrillation (AF) and an elevated RDI. The association was particularly evident in the case of CSA where subjects in the highest CSA quartile had a 2.7 times increased prevalence of AF. A correlation between RDI and complex ventricular ectopy (CVE) was also observed. CVE was defined as ventricular bigeminy, trigeminy, quadrigeminy or nonsustained ventricular tachycardia. Patients with high-grade OSA were 37% more likely to experience CVE than were reference patients. No significant relationship was observed between CSA and CVE frequency.

The presence of hypoxia did not correlate with AF episodes but did increase the frequency of CVEs

with a 62% increased risk of CVE if 10% or more of total sleep time occurred with less than 90% oxygen saturation. The researchers found no correlation between SDB and premature atrial contractions (PACs) occurring 5 or more times an hour. They also noted that the associations between CSA and AF were significantly stronger in the 94% of patients who did not have heart failure. They conclude that the strong association between CSA and AF suggests that CSA may be a sensitive marker of underlying abnormalities in autonomic or cardiac dysfunction associated with AF.

Mehra, R, et al. Nocturnal arrhythmias across a spectrum of obstructive and central sleep-disordered breathing in older men. Archives of Internal Medicine, Vol. 169, No. 12, June 22, 2009, pp. 1147-55

Editor's comment: It is interesting that this study found only a weak correlation between OSA and afib, but quite a strong one between CSA and afib. This may explain why some afibbers using a CPAP machine have not found it helpful. Of course, if CSA and OSA coexist in the same patient, which is often the case, then a CPAP machine may be useful.

Ablation of persistent atrial fibrillation

BORDEAUX, FRANCE. The success rate (no afib, no medications) for radiofrequency (RF) ablation of paroxysmal (intermittent) atrial fibrillation now approaches 90% in top centers. However, successfully ablating persistent AF (episodes lasting longer than 7 days or lasting less than 7 days, but requiring cardioversion), or long-lasting (permanent) persistent AF (continuous AF of greater than 1 year duration) is quite a different matter with success rates often being 50% or less. Paroxysmal AF is triggered from areas in or around the entrance of the pulmonary veins into the left atrium and therefore can be eliminated by isolating the pulmonary veins electrically from the left atrium through a relatively simple PVI procedure. However, in the case of persistent and permanent afib, other areas of both the left and right atrium are involved in initiating, propagating and maintaining persistent AF.

An increasingly popular approach to dealing with persistent afib involves substrate ablation. This procedure, pioneered by Dr. Koonlawee Nademanee, involves locating sites with complex fractionated electrograms recorded during AF and then ablating them. An electrogram is a picture of the electrical activity of the heart as sensed from within the heart as opposed to an ECG which senses the activity from outside the heart. Fractionated electrograms are characterized by abnormalities in the baseline or a very short cycle length.

Linear ablation involving the roof of the left atrium and the mitral isthmus may also be involved in performing a successful ablation for persistent AF.

The Bordeaux team of Prof. Haissaguerre and colleagues now report the outcome of RF ablation in

71 patients with persistent AF and 82 patients with permanent AF. The average age of the patients was 56 years and 85% were male. Almost half (48%) of the 153 patients had structural heart disease. All underwent a standard, segmental PVI followed by substrate ablation, and linear ablation as required. Spontaneous termination of AF was achieved in 9% after the PVI, in 58% after substrate ablation, and in 18% after linear ablation. The remaining 15% could not be terminated by ablation and required pharmacological and/or electrical cardioversion. The average total procedure time was 4 hrs. 15 min. with fluoroscopy time of 86 minutes and RF energy delivery duration of 88 minutes.

Of the patients in whom AF terminated during the procedure, 83% terminated via atrial tachycardia (AT) which needed ablation, and 17% converted directly to normal sinus rhythm (NSR). The Bordeaux team observed that the chances of AF termination during the procedure was better with a smaller left atrium diameter, a shorter duration of persistent AF, and a longer atrial fibrillation cycle length (AFCL) at baseline. AF and/or AT recurrence was common among all study participants with half the patients who experienced AF termination during the initial procedure requiring repeat ablation(s) – 58 for AT and 6 for AF. In the non-termination group 16 out of 23 patients (70%) required repeat procedures – 9 for AF and 7 for AT.

After a follow-up ranging between 28 months and 40 months, 95% of patients whose AF terminated during the initial procedure were still in NSR as compared to only 52% in the group whose AF could not be terminated during the initial procedure. No asymptomatic episodes were detected in a subgroup of patients undergoing continuous, long-

term monitoring. Prof. Haissaguerre and colleagues conclude that long-lasting persistent AF is a complex arrhythmia (what an understatement!) and that termination of AF during the initial procedure is associated with a better long-term outcome.

O'Neill, MD, et al. Long-term follow-up of persistent atrial fibrillation ablation using termination as a procedural endpoint. European Heart Journal, Vol. 30, 2009, pp. 1105-12

Editor's comment: This report vividly illustrates the enormous challenge in successfully dealing with

persistent and permanent afib. It also reveals, as many afibbers themselves have observed, that atrial tachycardia is common following an otherwise successful AF ablation and, in many cases, needs an additional ablation to resolve. Realistically, anyone with persistent or permanent afib should be psychologically and financially prepared to undergo at least two ablation procedures. This provides a strong incentive to deal with afib while it is still paroxysmal.

Body size and risk of atrial fibrillation

GOTEBORG, SWEDEN. Obesity as defined by a body mass index (BMI) exceeding 30 is now recognized as an important risk factor for the development of AF. BMI is calculated as the weight in kilograms divided by the square of the height in meters. A group of Swedish researchers now report that a large body size at age 20 years as well as weight gain from age 20 to mid-life are also significant risk factors for AF.

Their study involved 6903 Swedish men born in Goteborg between the years 1915 and 1925. During a follow-up spanning about 34 years, 1253 of the men (18.2%) were discharged from hospital with a diagnosis of AF. The researchers found that men with a large body surface area (BSA) at age 20 years had twice the risk of developing AF than did men with a BSA in the lowest quartile. BSA is defined as the square root of height measured in centimeters times weight in kilograms divided by 3600. A large gain (more than 35%) in weight between age 20 and mid-life increased risk by 61% when compared to a man whose weight had not changed between age 20 and mid-life. The data also confirmed that men with a mid-life BMI above 30 had twice the risk of developing AF as compared to those with a BMI between 20 and 22.5.

Finally, there was also a strong correlation between measured mid-life heights in men with a height greater than 179 cm (70.5 in) having a 68% increased risk when compared to those with a height below 172 cm (67.7 in). The researchers suggest that greater BMI, BSA and height are all associated with a larger left atrial size, which in itself has been associated with an increased incidence of AF. They conclude that, given current trends not only for obesity but also for height in many Western countries, we may be facing a substantial increase in the incidence and prevalence of AF in the future.

Rosengren, A, et al. Big men and atrial fibrillation: effects of body size and weight gain on risk of atrial fibrillation in men. European Heart Journal, Vol. 30, 2009, pp. 1113-20

Editor's comment: It is interesting that our first LAF survey in February 2001 found that the average height for older male respondents was 183 cm (6 ft), 187 cm (6 ft 2 in) for younger men, and 168 cm (5 ft 6 in) for women. These numbers would put at least the men into the high-risk category for AF. The association between lone atrial fibrillation and tallness was confirmed in LAF Survey 11 as reported by Patrick Chambers, MD in his 2007 article "Lone atrial fibrillation: Pathologic or not?" published in *Medical Hypotheses* (2007; 68(2): 281-7).

The Dissociated Diet and LAF

by **Antonio Contardo**
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I was born in October 1935 and have always been physically very active, practicing mostly long distance running, cross-country skiing, and bicycling. In my early 70s I stopped running and skiing which was replaced with vigorous walking and cycling. My body mass index today is 19.9. In 1998 I began to experience LAF and went through the usual routine (first aid in hospital, tests, etc). For the next 3 years I tried various medications without success. A copious dinner or wine on an airplane was a precipitating cause that I soon learned to avoid.

In 2001 I was put on a combined medication of the antiarrhythmic Lentoquine (hydroquinidine HCL) and digoxin. Things improved substantially and I started again to accept invitations to dine and drinking wine in moderation. This lasted until December 2007 when it appeared that the medication was no longer effective and I went back to see my cardiologist. When I asked, "What next?", he replied with what I considered worse than a four-letter word, "Well, we could implant a pacemaker".

Back home I searched on the Internet and found your book *Lone Atrial Fibrillation: Towards A Cure* which I bought and studied. So from January 2008 I stopped taking any medication, avoided wine at dinner, and tried some of the supplements suggested in your book. For a full year I went on keeping a careful diary. My episodes were rather recurrent every 15 days and the best medication I could find was the use of tranquilizers to be taken when I felt that an episode might be eminent (late dinner, animated discussion, etc). My afib condition was the same as when I was taking medication, so I considered it an improvement.

However, since December 2008 my wife adopted a dissociated diet in order to overcome a gastroesophageal reflux problem. This worked well and allowed her to stop taking medications. In order to make her life easier, I committed myself to eating exactly as she did.

It may sound incredible, but my LAF situation has since then disappeared!! I just experienced a single episode in March (triggered by a hurried dinner with a friend) and none since. I can again enjoy a glass of wine at dinner. I have never suffered from digestion problems – in fact friends suggested I had the stomach of an ostrich. However, it seems that during nighttime the digestion process of a mixed protein and carbohydrate meal was the cause of my LAF. I am skeptical and even more so when judging cures; however, I cannot find any other reason to explain the dramatic change I have experienced and the total remission of episodes.

I am writing this story in order to suggest that other sufferers of LAF try a dissociated diet and let others know of an improvement.

Editor's comment: The Dissociated diet is based on the Hay food combining system developed by Dr. William Howard Hay around 1930. Its guiding principle is to avoid mixing proteins and acid fruits with starches and sugars. Its five important rules are:

1. Starches and sugars should not be eaten with proteins and acid fruits at the same meal.
2. Vegetables, salads, and fruits should form the major part of the diet.
3. Proteins, starches, and fats should be eaten in small quantities.
4. Only whole grain and unprocessed starches should be used, and all refined processed foods should be taboo – in particular, white flour and sugar and all foods made with them, and highly processed fats such as margarine.
5. An interval of at least four to four-and-a-half hours should elapse between meals of different character.

For further reading, the Hay diet is described in detail in the book *Food Combining for Health* by Doris Grant and Jean Joice (Healing Arts Press, 1989)

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