

# THE AFIB REPORT

*Your Premier Information Resource for Lone Atrial Fibrillation!*

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6th YEAR



*It is now over five years since The AFIB Report and the [www.afibbers.org](http://www.afibbers.org) web site first saw the light of day (January 2001). During these years we have all learned a great deal about lone atrial fibrillation, have shared experiences, and found vital information and sometimes solace and encouragement on the Bulletin Board, in the Conference Room, or on the pages of the newsletter. Some of us have been able to eliminate or, at least, manage our afib through diet changes, supplementation, medications, ablations or maze surgery, but others are still struggling. The most essential factor in this struggle is knowledge. The knowledge to know when to refuse and when to accept warfarin and other medications. The knowledge of how diet changes and supplementation can help prevent ectopic beats and even afib itself, and the*

*knowledge to pick an electrophysiologist or surgeon who will cure you of "the beast" with a high probability of success.*

*In this 59<sup>th</sup> issue we continue our contribution to the learning process. Dutch researchers confirm that the incidence of atrial fibrillation is reaching epidemic proportions with 25% of the population aged 55 years or older expected to be diagnosed with afib during their lifetime. Long-term warfarin therapy is associated with an increased risk of osteoporosis among men, inflammation and lone afib are linked, but it is uncertain which is the "egg" and which is the "chicken", and direct current cardioversion is generally not very effective in maintaining sinus rhythm.*

*On a totally different topic – there have been some changes to our on-line vitamin store. iHerb, our supplier, has moved to new expanded quarters and set up a new division, [www.papanature.com](http://www.papanature.com) which will handle its on-line sales. Coinciding with the move iHerb has changed their discount structure and instituted new (very low) shipping charges. You can find further information about these changes on page 7 of this issue.*

*I believe [papanature.com](http://papanature.com) now offers the best prices, freshest products, and best delivery service on the Internet and hope that you will continue to patronize the [afibbers.org](http://afibbers.org) vitamin store. Please keep in mind that when you order through my store I will receive a commission, which materially helps to defray the cost of operating the web site and bulletin board.*

*Your continuing support is very much appreciated,*

**Hans**

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## LETTER TO THE EDITOR

You continue to report research showing that the risks of hemorrhagic strokes/serious bleeding problems for lone afibbers on warfarin are seemingly greater than the risks of ischemic strokes more generally in this group. Do you know if this research takes into consideration the INRs of those on warfarin? Otherwise, it could be hypothesized that those suffering the serious bleeding have simply not kept their INRs down below a specified level and the results would not pertain to those who do manage their INR levels better.

JRL, USA

**Editor:** *You raise a very valid point regarding the effect of keeping the INR within the proper therapeutic range. Most studies that have found warfarin to be effective and reasonably safe have been tightly controlled clinical trials where INR was*

*monitored frequently using a standard protocol. Of course, reality is quite different. At least 2 major studies have found that the average patient on warfarin is only within range, at the most, 60% of the time. Add to this that warfarin interacts with many herbs and, at least, 60 common pharmaceutical drugs and, it is clear that being out of range and thus vulnerable to ischemic or hemorrhagic stroke is commonplace.*

*The study reported in the April issue of "The AFIB Report" reflected "real world" experience, so certainly it is quite possible that the results among warfarin-users with tightly controlled INRs would be better. However, I do not believe that the official recommendation that lone afibbers with no other risk factors for stroke should NOT be on warfarin is inappropriate even under the tightest INR control.*

## ABSTRACTS

### Prevalence and incidence of AF

ROTTERDAM, THE NETHERLANDS. It is becoming increasingly clear that atrial fibrillation is reaching epidemic proportions and that the incidence (new cases per 1000 person-years) and prevalence (percent of a given population having the disorder at any given point in time) of the condition continue to rise. A team of Dutch and British researchers has just reported the results of a 7-year study involving 6400 inhabitants (aged 55 years or older in 1990) of a suburb of Rotterdam. At the start of the study 5.5% of the participants had been diagnosed with afib for an average prevalence among men of 6.0% and a prevalence of 5.1% among women. The prevalence increased significantly with age, with the prevalence being only 0.7% in the 55-60 year age group versus 17.8% in the over 85 year age group. By January 2000, the overall prevalence had increased to 8.3%.

The incidence (new cases) over an average of 7 years was 9.9/1000 person-years or about 1% a year. The incidence was highly dependent on age with the group aged 55-60 having an incidence of 0.1% a year and the age group 80-85 having an incidence of 2.1% a year. The incidence was higher in men than in women across all age groups. The results of the study also showed that a 55-year-old man has a 25% chance of developing afib during

his remaining life. The average lifetime risk for a 55-year-old woman was found to be 23%. Lifetime risk remained pretty well constant until age 75 when it began to decline. This means that about a quarter of the population between the ages of 55 and 75 years can expect to develop afib at some point in their lives – a sobering thought indeed!

*Heeringa, J, et al. Prevalence, incidence and lifetime risk of atrial fibrillation: the Rotterdam study. **European Heart Journal**, Vol. 27, 2006, pp. 949-53*

*Boriani, G, et al. The epidemiological burden of atrial fibrillation: a challenge for clinicians and health care systems. **European Heart Journal**, Vol. 27, 2006, pp. 893-94 (editorial)*

**Editor's comment:** This study, as is unfortunately often the case, did not distinguish between lone atrial fibrillation and atrial fibrillation associated with heart disease or other conditions. However, reviewing the baseline data it would appear that about 50% of the study participants probably did develop lone afib. It is also highly likely that both the incidence and prevalence figures are understated since it is now known that a substantial proportion of afibbers have asymptomatic episodes which may not have been detected either by the patient or through the 3 routine follow-ups where 10-second ECGs were used to check for afib.

## Warfarin implicated in osteoporosis

ST. LOUIS, MISSOURI. Vitamin K is a crucial element in the process of bone formation. As warfarin (Coumadin) is known to inhibit this action of vitamin K, it is relevant to ask the question, "Is long-term use of warfarin associated with an increased risk of osteoporotic fractures?" A team of researchers from Washington University School of Medicine and the NYU Medical Center now provides the answer. The researchers investigated the association between osteoporotic fractures and warfarin usage in over 14,000 Medicare beneficiaries who were hospitalized with atrial fibrillation. Most of the study participants (70%) had hypertension, 48% had heart failure, and 35% had a history of stroke. A total of 1005 of the study participants (6.9%) experienced an osteoporotic fracture during the 3-year study period. The researchers found that men who had been taking warfarin for a year or more had a 63% higher relative risk of experiencing an osteoporotic fracture when compared to men not taking warfarin. Hip fractures were most common (65% of all fractures) and were associated with a 30-day mortality of 39%. Women and men using warfarin for less than a year did not have an increased risk of osteoporotic fractures.

Other prominent risk factors for osteoporotic fractures were increasing age (63% increased risk per decade), frequent falls (78% increased risk), hyperthyroidism (77% increased risk), dementia,

Parkinson's disease or schizophrenia (51% increased risk), and alcoholism (50% increased risk). On the other hand, the use of beta-blockers was associated with a 16% lower risk of osteoporotic fractures.

The researchers point out that patients taking warfarin are often advised to limit their intake of vitamin K rich green vegetables. They believe this may be poor advice and that ensuring an adequate intake of vitamin K-1 (found especially in green vegetables) and vitamin K-2 (present in fermented dairy and soy products, fish, meat, liver and eggs) would be more appropriate. They also caution that avoiding green vegetables may lead to a folic acid deficiency and subsequent high levels of homocysteine, a known promoter of atherosclerosis. *Gage, BF, et al. Risk of osteoporotic fracture in elderly patients taking warfarin: results from the National Registry of Atrial Fibrillation 2. Archives of Internal Medicine, Vol. 166, January 23, 2006, pp. 241-46*

**Editor's comment:** The results of this study support the findings of other studies that an adequate, but consistent, intake of vitamin K containing foods is advisable for patients taking warfarin. It would also be advisable to undertake an active osteoporosis prevention program including regular exercise and supplementation with vitamin D and calcium.

## Inflammation and atrial fibrillation

THRACE, GREECE. The association between systemic inflammation and lone atrial fibrillation (LAF) has fascinated researchers ever since 1997 when Dr. Andrea Frustaci and colleagues at the Catholic University of Rome discovered that lone afibbers tend to show evidence of current or past inflammation in their heart tissue. Later research confirmed an association between elevated levels of high-sensitivity C-reactive protein (hs-CRP), a marker of systemic inflammation, and the presence of LAF. Paroxysmal afibbers were found to have higher hs-CRP levels than controls, and persistent and permanent afibbers were found to have higher levels than paroxysmal afibbers.

Researchers at the University of Thrace now report that hs-CRP levels measured during a first LAF episode are significantly higher than those of

controls and that a higher CRP level during the first episode predicts the risk of recurrence. Their study included 125 patients with a first, documented paroxysmal episode of LAF who had blood samples drawn for hs-CRP analysis while in afib. Their CRP values were compared to those of matched controls who had never been diagnosed with AF. The average (median) value for the afibbers was 0.23 mg/dL (2.3 mg/L), while the median for controls was 0.087 mg/dL (0.9 mg/L). Sixty per cent of the 125 afibbers whose first episode was documented had recurrences during a mean follow-up of 2 years. Patients with CRP levels in the top quartile (0.23 mg/dL) were 15% more likely to have a recurrence than were patients in the bottom quartile (median of 0.1 mg/dL).

The researchers also observed that the hs-CRP levels of afibbers were significantly lower (median of 0.14 mg/dL) during sinus rhythm than during an episode (median of 0.28 mg/dL). The researchers conclude that hs-CRP may be a marker for inflammatory states that may promote the initiation of lone atrial fibrillation.

*Hatzinikolaou-Kotsakou, E, et al. Relation of C-reactive protein to the first onset and the recurrence rate in lone atrial fibrillation. American Journal of Cardiology, Vol. 97, 2006, pp. 659-61*

**Editor's comment:** There seems to be little doubt that inflammation and LAF are somehow connected. What is much less clear is the mechanism by which they are linked. The University of Thrace researchers and, as far as I know, all other researchers (myself included) who have given the

matter some thought believe that inflammation is a causative factor in the initiation and recurrence of afib. The possibility that the association may be the opposite of what seems intuitively right, in other words, that fibrillation may result in inflammation has not been given much credence. However, this may now change with the discovery by Martin Rotter and colleagues in Bordeaux who recently reported that hs-CRP levels decrease markedly after a successful pulmonary vein isolation procedure. They concluded that restoration of sinus rhythm results in a significant decrease in inflammation. Which interpretation is correct? More research is required to determine this, but it is certainly not beyond the realm of possibilities that atrial fibrillation may result in inflammation rather than inflammation causing afib.

## Successful ablation reduces inflammation

BORDEAUX, FRANCE. Several studies have shown that afibbers with persistent or permanent afib tend to have higher C-reactive protein (CRP) levels than do paroxysmal afibbers and those in sinus rhythm. What is not known is whether restoring sinus rhythm through radiofrequency ablation will reduce CRP levels to normal. Martin Rotter, MD and colleagues at the Hopital Cardiologique du Haut-Leveque have now answered this question.

Their clinical trial included 50 patients aged 43 to 63 years (49 male and 1 female). Five of the patients had long-lasting persistent afib (episode duration of 3-10 months), while the remaining 45 were in permanent afib. The patients all underwent a single pulmonary vein isolation (PVI) procedure with additional lesion lines as required to restore sinus rhythm. The patients were examined 1 and 3 months after their ablation and remained on their pre-ablation medications throughout the trial period. At 3 months, 66% (33 patients) were still in sinus rhythm, while 12 had paroxysmal afib, and 5 had atrial tachycardia. While the CRP levels among the successful and unsuccessful ablatees were similar prior to the ablation (2.82 mg/L or 0.28 mg/dL vs 2.46 mg/L or 0.25 mg/dL), there was a significant decline in the level among patients still in sinus rhythm at the 3-month checkup. Among these

patients the CRP level had declined from 2.82 mg/L to 1.37 mg/L. In comparison, the average CRP level in the unsuccessful group did not change significantly (2.46 mg/L vs 2.58 mg/L).

The researchers also noted a significant decrease in left atrial size (parasternal diameter) from 45.8 mm to 42.6 mm in the successfully treated group. No such change was observed in the unsuccessful group (45.2 mm vs 45.4 mm). The study clearly demonstrates that it is not radiofrequency ablation as such that reduces atrial size and inflammation, but rather the restoration of sinus rhythm. The Bordeaux researchers conclude that restoration of sinus rhythm by a PVI results in reverse remodeling of the left atrium and a significant decrease in inflammation.

*Rotter, M, et al. Decline in C-reactive protein after successful ablation of long-lasting persistent atrial fibrillation. Journal of the American College of Cardiology, Vol. 47, No. 6, March 21, 2006, pp. 1231-33 (letter to the editor)*

**Editor's comment:** It is also evident from the results of this trial that being out of sinus rhythm causes inflammation (high CRP levels) rather than the other way around. This would explain why CRP levels increase from paroxysmal to persistent to permanent afib.

## Success rate for cardioversion

MIDDLESBROUGH, UNITED KINGDOM. It is unfortunate, but by now a well-established fact, that direct current cardioversion (DCC) is not very effective in keeping persistent and permanent afibbers in normal sinus rhythm (NSR). A group of cardiologists at the James Cook University Hospital now report that pre- and post-treatment with amiodarone greatly improves the chances of staying in NSR after DCC. Their clinical trial included 91 patients with persistent or permanent afib scheduled for DCC after 6 weeks of warfarin therapy. During the 6-week waiting period 20 patients were randomized to receive amiodarone (200 mg 3 times daily for the first week, 200 mg 2 times daily for the second week, and then 200 mg daily for the remainder of the trial period); 28 patients received sotalol (160 mg twice a day, or 80 mg twice a day if intolerant of the higher dose) and the remaining 29 patients received no antiarrhythmic drug. All patients were given beta-blockers (usually atenolol) or digoxin as required for rate control and all remained on the drug regimen in effect pre-DCC for the entire 6-month observation period. During the 6-week waiting period 7 patients in the amiodarone group and 7 in the sotalol group converted spontaneously to NSR and were not given DCC. None of the patients not receiving antiarrhythmics converted on their own.

The immediate success rate of cardioversion (patients in NSR at time of discharge from the

hospital) was 92% for those in the sotalol group, 81% in the amiodarone group, and 74% in the no-antiarrhythmic group. Unfortunately, the effects of the cardioversion did not last. Six weeks after DCC only 53% of those in the sotalol group, 67% in the amiodarone group, and 42% in the no-antiarrhythmic group were still in NSR. Corresponding numbers at the end of the trial (6 months after DCC) were 39%, 63%, and 16%. The researchers conclude that amiodarone (200 mg a day) is more effective than sotalol (160 mg twice a day) in maintaining NSR after cardioversion. Adverse effects were observed in 4% of the patients assigned to amiodarone and in 11% assigned to sotalol.

*Vijayalakshmi, K, et al. A randomized trial of prophylactic antiarrhythmic agents (amiodarone and sotalol) in patients with atrial fibrillation for whom direct current cardioversion is planned. American Heart Journal, Vol. 151, April 2006, pp. 863-68*

**Editor's comment:** It is very clear from this clinical trial that DCC on its own (without concomitant use of antiarrhythmics) is ineffective in maintaining NSR in persistent and permanent afibbers. Only 16% of converted patients in the no-antiarrhythmic group were still in NSR 6 months after DCC. Thus, the message to take away from this trial is that DCC without concomitant antiarrhythmic therapy is rarely worthwhile.

## Fish consumption and atrial fibrillation

ROTTERDAM, THE NETHERLANDS. There is substantial evidence that a high consumption of oily fish or more specifically, long-chain omega-3 fatty acids (eicosapentaenoic acid [EPA] and docosahexaenoic acid [DHA]) is associated with a reduced risk of sudden cardiac death and ventricular fibrillation. This fact prompted Dutch researchers to investigate if a high intake of fish would decrease the risk of developing atrial fibrillation.

Their study involved 5184 men and women aged 55 years or older who were afib-free at baseline. The participants completed a validated food frequency questionnaire during an interview with a trained dietician and were then followed for an average period of 6.4 years. During this period, 312 participants (6%) were diagnosed with atrial

fibrillation. The researchers found no correlation between the consumption of fish and the risk of developing afib. They also found no correlation between the (calculated) intake of EPA and DHA and the risk of developing afib. The calculated daily intake of EPA plus DHA ranged from an average of 20 mg to an average of 330 mg with the maximum being 570 mg/day. Only 0.5% of participants were taking fish oils supplements. The researchers conclude that their findings do not support the hypothesis that long-chain omega-3 fatty acids (fish oils) have a general antiarrhythmic effect.

*Brouwer, IA, et al. Intake of very long-chain n-3 fatty acids from fish and incidence of atrial fibrillation. The Rotterdam Study. American Heart Journal, Vol. 151, April 2006, pp. 857-62*

**Editor's comment:** This study confirms the findings of a previous Danish study but contradicts the findings of an American study, which observed an inverse association between the intake of tuna and other broiled and baked fish and the occurrence of atrial fibrillation. The Dutch study raises a couple of interesting points.

- Is fish a good source of EPA and DHA? The answer, unfortunately, is probably not. There is substantial evidence that most fish (except wild Pacific salmon) is contaminated with mercury. A landmark study at Harvard Medical School found that there is a direct relationship between fish consumption and mercury levels in humans with an average consumption of ¾ lb (357 grams) of fish per week corresponding to a mercury level of 0.75 micrograms/gram (in toenail clippings). In contrast, a consumption of 1/3 lb (145 grams) per week was associated with a mercury level of only 0.29 micrograms/gram.[1-3] Thus, it is clear that nowadays an increased fish consumption is associated with an increased intake of mercury. Could the beneficial effects of EPA + DHA from fish be cancelled by the detrimental effects of mercury from the same fish? I am not aware of any research addressing this very key question.

- Were the amounts of EPA + DHA consumed by the participants in the Dutch study too low to be likely to have an effect? Hard to know, but three afibbers who eliminated afib through major dietary changes had average intakes of 2000 mg of EPA and 2200 mg of DHA for a total of 4200 mg/day of long-chain omega-3 fatty acids.[4] This amount is almost 30 times higher than the average amount (146 mg/day) consumed by the participants of the Rotterdam study. So, the study does not, in any way, prove or disprove whether therapeutic amounts of EPA + DHA would be effective in reversing or preventing afib.

Fish oils have many beneficial properties and are an essential part of a natural stroke prevention program. The minimum recommended daily intake is 650 mg/day. It is vitally important, however, that fish oil supplements be of the highest quality. Only fresh, molecular-distilled (pharmaceutical grade) products should be consumed.

[1] Guallar, E, et al. Mercury, fish oils, and the risk of myocardial infarction. *NEJM*, Vol. 347, November 28, 2002, pp. 1747-54

[2] Yoshizawa, K, et al. Mercury and the risk of coronary heart disease in men. *NEJM*, Vol. 347, November 28, 2002, pp. 1755-60

[3] Bolger, PM and Schwetz, BA. Mercury and health. *NEJM*, Vol. 347, November 28, 2002, pp. 1735-36

[4] Larsen, HR. Lone Atrial Fibrillation: Towards A Cure, *International Health News*, Victoria, Canada, 2002, p. 169

## Stenosis in anatomic PV ablation

BALTIMORE, MARYLAND. Stenosis (significant narrowing of the diameter) of the pulmonary veins is a potential, serious adverse effect associated with pulmonary vein isolation (PVI) using radiofrequency ablation. It was fairly common in the early days of ablation since ablation lesions were often placed in the veins themselves or very close to the edge (ostia) where the veins open into the wall of the left atrium. With better mapping techniques the incidence of stenosis has declined, but is still of concern. The circumferential pulmonary vein ablation protocol (Pappone method) was expected to further reduce the possibility of stenosis by ensuring that ablations lesions (two lesions encircling the left and right pulmonary veins respectively) were placed well away from the ostia.

Electrophysiologists at Johns Hopkins University School of Medicine now report the first study aimed at determining the actual incidence of stenosis in PVIs performed using the Pappone procedure (anatomic PV ablation). The study involved 41 consecutive patients who underwent anatomic PV ablations. Eighty per cent of the study participants had lone atrial fibrillation. Twelve patients had paroxysmal afib, 12 had the persistent variety, and 17 had permanent afib. The average age of the patients was 56 years and 18 were women. All patients underwent gadolinium-enhanced magnetic resonance imaging (MRI) immediately prior to and 8-10 weeks after their PVI. Twenty-five of the ablated patients (61%) had a successful ablation and were in normal sinus rhythm without the use of antiarrhythmics after 6 months of follow-up.

A comparison of MR images before and after the ablation showed that detectable stenosis (diameter narrowing of 3 mm or more) was present in 73% of all patients. Most (59%) had only mild stenosis (less than 50% narrowing), but 12% had moderate stenosis (50-70% narrowing), and one patient (2.4%) had severe stenosis (greater than 70% narrowing). The major variables associated with an increased risk of stenosis was the encirclement of individual veins rather than both left and both right veins within one circular lesion each and a larger initial vein diameter.

None of the patients required treatment for stenosis, but the authors of the study point out that stenosis tends to progress with time so it is possible that treatment may be required in the future. The researchers express surprise over the relatively high proportion of stenosis, but point out that

electroanatomical mapping is not perfect in that it, among other factors, depends on the patient being absolutely still during the mapping procedure. They also suggest that mild stenosis may be due to a shrinking of the atrium (remodeling) after reestablishment of normal sinus rhythm, rather than a result of ablation lesions being placed too close to the veins.

*Dong, J, et al. Incidence and predictors of pulmonary vein stenosis following catheter ablation of atrial fibrillation using the anatomic pulmonary vein ablation approach. Journal of Cardiovascular Electrophysiology, Vol. 16, August 2005, pp. 845-52*

**Editor's comment:** The surprising finding that pulmonary vein stenosis is a significant problem in anatomically guided pulmonary vein ablation emphasizes the importance of a 3-month follow-up MRI or CT scan to check for pulmonary vein narrowing.

#### IMPORTANT NOTICE ABOUT VITAMIN STORE

iHerb, our supplement supplier has moved to new, expanded quarters in Irvine, CA and set up a new division, [www.papanature.com](http://www.papanature.com), to handle on-line sales. Coinciding with the move, iHerb has changed its discount structure, instituted new (very low) shipping charges and eliminated the sales tax for California customers. Papanature.com will continue iHerb's tradition of low prices, fresh products, and speedy delivery.

In a gesture of appreciation to loyal customers, iHerb will extend a discount on your first order during the month of May and on every order you place over the next 12 months. The new discounts are as follows:

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Your continuing support is very much appreciated.

**European Cardiac Arrhythmia Society**  
**2<sup>nd</sup> Annual Congress**  
**Marseille, France, April 2-4, 2006**

Abstracts published in *PACE*, Vol. 29, April 2006, Supplement 1

### **Laser technology enters PVI arena**

An international team of electrophysiologists from centers in the United States, Italy, the Czech Republic, and Germany reports the first human trial of a novel endoscopic laser balloon ablation system designed to cure atrial fibrillation (AF). The trial involved 20 patients with symptomatic paroxysmal afib. The average age of the patients was 54 years (range of 29-73 years) and they had suffered from afib for an average of 6 years (1.5 to 24 years). A circumferential mapping catheter and the laser balloon system were placed at each pulmonary vein opening (ostia) in turn and laser energy applied to create the necessary lesions to isolate the veins. Successful isolation was achieved in 86% of veins targeted. Seventy-five per cent of treated patients were free from symptomatic afib after 6 months of follow-up. No stenosis was observed. The electrophysiologists conclude that light-energy (laser) ablation is a viable option for PVIs.

*Abstract #14, p. S7*

### **Ablation by robot**

Dr. Carlo Pappone and his group at the San Raffaele Hospital in Milan report on the first trial of robot-assisted ablation. Their trial involved 40 afibbers who underwent circumferential pulmonary vein ablation (CPVA) using a combination of the CARTO anatomical mapping system and a remotely-controlled, magnetic ablation catheter (4 mm tip). The procedure successfully achieved the end result of pulmonary vein isolation in 38 of the 40 patients. A very steep learning curve was experienced. The total average procedure time was 193 minutes for the first 12 patients dropping to 148 minutes for the next 18. The researchers conclude that remote magnetic navigation for AF ablation is safe and feasible with a short learning curve and is especially well-suited for less experienced EPs.

*Abstract #38, p. S20*

### **Bepridil proves effective for flutter**

Many right atrial flutter patients find no relief from Class 1 antiarrhythmic drugs such as propafenone and flecainide. For those reluctant to undergo radiofrequency ablation the calcium channel blocker

bepridil (Vascor) may be the answer. Japanese researchers report that 73% of a group of 48 patients with paroxysmal atrial flutter remained in normal sinus rhythm (NSR) for an average 22 months when taking 100-200 mg/day of bepridil. In a group of 30 patients with persistent flutter, 70% converted spontaneously to NSR within 1.6 months of starting bepridil and 81% of these patients remained in NSR during an average follow-up period of 22 months. However, one of the patients (a 78-year-old male) showed significant prolongation of QT interval and developed torsade de pointes due to hypokalemia, renal and liver dysfunction.

*Abstract #120, p. S60*

### **PVI comes out the winner**

Before the advent of pulmonary vein ablation (PVI) afib patients were often counseled to go on warfarin (Coumadin) and undergo direct current cardioversion (DCC) as needed to cope with their disorder. Other patients were counseled to receive an AV node ablation and pacemaker implantation (AVNA). Dr. Andrea Natale and his group at the Cleveland Clinic have now compiled data comparing afib recurrence rates and mortality rates for 138 patients undergoing PVI, DCC (139 patients), or AVNA (133 patients). The patients were age-matched (60-80 years of age) and had undergone their procedure during the period 1996-2004. The short-term recurrence rate (episodes less than 2 months after procedure) was 13% for PVI, 25% for DCC, and 37% for AVNA. The late recurrence rate (episodes between 2 and 12 months post-ablation) was 9% in the PVI group, 54% in the DCC group, and 48% in the AVNA group. Mortality within the groups was 1.4% for PVI, 31% for DCC, and 15% for AVNA. The authors of the study conclude that PVI has a very low recurrence and mortality rate compared to DCC and AVNA.

*Abstract #194, p. S95*

### **New afib drug on the horizon**

ATI-2042 is an analogue of amiodarone with a much shorter half-life (7 hours vs. 50 days).

Because it is rapidly metabolized and excreted, it is expected to have less severe side effects than those observed with amiodarone and yet be equally effective. British researchers recently put the drug to a preliminary test involving 6 female afibbers. The participants underwent six 2-week test periods during which they received ATI-2042 daily in dosages ranging from 200 mg twice a day to 800 mg twice a day. The average afib burden (% of day spent in afib) prior to the trial varied from 5 to 45% with a mean of 20%. With 200 mg of ATI-2042 taken twice daily the burden decreased to an average of 5.1% and with 800 mg twice daily it reduced to 1.7%. The researchers conclude that ATI-2042 is highly efficient in reducing afib burden and are now planning large-scale phase 2 trials.

*Abstract #124, p. S62*

### **Is flutter ablation necessary with PVI?**

Many afibbers also suffer from right atrial flutter and it is now common practice in several ablation centers to perform an ablation in the right atrium

(cavotricuspid isthmus ablation) to prevent atrial flutter whether or not the afibber has actually ever experienced a flutter episode. Researchers at the University Hospital in Geneva, Switzerland now question this approach. In a study involving 176 afibbers (127 paroxysmal) who underwent a standard PVI, the researchers decided to limit the performance of a flutter ablation to patients who had experienced a documented episode of sustained typical atrial flutter before or during the PVI. Thus, 69 patients underwent the flutter ablation, while 107 did not. During a follow-up of 18 months, 2 patients in the group ablated for flutter had a recurrence and 2 patients among the 107 who did not have the flutter ablation also developed flutter. The researchers conclude that the atrial flutter ablation should be reserved for those with a previous episode since the post-PVI incidence rate among afibbers with no previous atrial flutter episodes is only 2%.

*Abstract #11, p. S6*

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