



Case Report

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Atrial Fibrillation and Blood Clots: a Clot was Hiding in the Apex of My Left Ventricle

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Abstract

On March 25th, 2025, I published an article in this journal, AJBSR, titled "Pacemaker Leads: A Bad Break." My readers may want to go back and review that article, because it discusses how a broken wire in one of the pacemaker leads was contributing to me feeling like I had no energy. It has now been 19 months since the biventricular pacemaker was implanted. Unfortunately, somewhere along the line, a wire going to the left ventricle broke and had to be replaced. In this article I discuss additional factors contributing to my lack of energy including Atrial Fibrillation and a blood clot in my heart.

Keywords: Atrial Fibrillation (AFib), Ablation, Cardioversion, Blood Clots, Anticoagulants

Introduction

A new lead had been placed in my heart 19 months ago when I got a new biventricular pacemaker. In February of 2005, a routine examination of my new pacemaker showed that a lead for the pacemaker contained a broken wire, and the biventricular features of the pacemaker were not working. Going back to December of 2024, I noticed that I was getting very short of breath when I tried to walk. (This must have been about the time the biventricular lead stopped working.) My condition noticeably worsened during January of 2025 while I was vacationing on the Central Coast of California. When I first got the new biventricular pacemaker, my energy level, stamina, and walking capability had greatly improved. Now, I was back to having very little stamina like my condition was before I got the biventricular pacemaker. In other words, the biventricular pacemaker had been a great help to me when it was working. So, having it not working seemed like a logical reason why I was feeling that I had no energy. In yet another surgical procedure in February of 2025, the defective lead was replaced, and the lead tested as fully

functional. Yet, I did not seem to regain much of my energy, which was quite concerning to me.

Atrial Fibrillation

About a week after I got the replacement biventricular lead, I was in my pacemaker physician's office for a routine checkup (along with the pacemaker technician also being present) and they were looking at data reports from the pacemaker. One of the better features of modern pacemakers is they keep a record of all heart activity for the past several months. The pacemaker technician said in a loud voice, "He's got AFib!" My pacemaker physician said in an equally loud voice, "You've got AFib!" Okay, AFib, what do we do now?. As it turns out, we do lots of things.

To me, the simplest explanation of AFib is that extra heart beats are originating somewhere in the upper chambers (atria) of the heart. Typically, the extra beats can be quite rapid, and they interrupt the normal rhythm of the heart. Usually, they are not immedi-

ately life threatening, but they can be dangerous because they can cause blood clots to form. A blood clot could travel to the brain and cause a stroke, or one could travel to the lungs and make breathing difficult. So, physicians will attempt to treat AFib. I was immediately put on an anticoagulant (blood thinner) called Pradaxa. It is one of a number of “newer” and safer anticoagulants used in place of drugs like warfarin (coumadin) (Years ago, older types of anticoagulants were the basic ingredient of rat poison.) Other commonly prescribed anticoagulants are Eliquis and Xarelto. I tried taking Eliquis and regurgitated it in about 10 minutes. I had been prescribed Xarelto in the past and it had caused me to have excessive bleeding in my urinary tract. So, I’m taking Pradaxa by default. A side effect I’m having with Pradaxa is insomnia. I’ll be working with my prescribing physician to resolve the insomnia issue.

I am now being evaluated for a heart ablation; a procedure to eliminate AFib. However, before I was able to schedule the ablation procedure, my physicians wanted me to undergo a procedure called an Electrical Cardioversion.

Electrical Cardioversion

Electrical Cardioversion is a procedure that uses controlled electrical current administered to the heart via electrodes placed on the chest. The objective is to restore normal heart rhythm and stop the AFib. As explained to me, the procedure is rarely permanent, and eventually the AFib will return even if the Cardioversion is initially successful. However, it held out the possibility of making me feel better while I was waiting to schedule the ablation.

Before a Cardioversion is performed, an Echocardiogram (ECHO) is used to check to make sure there are no blood clots inside the heart. Performing a Cardioversion when a clot or clots are present in the heart could be fatal. A part of the ECHO can include a procedure called a Transesophageal Echocardiogram (TEE). During the TEE, I was given some lubricant for my throat and then asked to swallow a small transducer connected to a tube. The TEE transducer sends out ultra-sound waves and gives the technicians and physicians a very clear image of the interior of the heart and surrounding blood vessels. It is especially good for discovering clots and infections inside the heart.

Unfortunately, the TEE showed my physician I had a large blood clot located in my left ventricle. I was told that it is not unusual for a clot to form when someone has AFib. There was no way of determining how long the clot had been there. It was deep in the lower part of the ventricle in a part of the heart called the apex. In all likelihood, the clot was impeding the pumping of blood out of my left ventricle. I now have another reason for feeling like I have no energy. I now have AFib and a clot inside my heart, plus I had a broken pacemaker wire that had gone unrepaired for several months.

As mentioned above, I have been prescribed an anticoagulant that will hopefully keep any new clots from forming. My Cardiologist advises that the clot will likely be absorbed by my body, but it

will take five months or longer for it to be absorbed. I’m scheduled for a follow-up ECHO in a few months, and when the clot has been absorbed, then I will be scheduled for an ablation. A Cardioversion will not be performed.

Ablation

I had an ablation about five years ago, and I remember it was a somewhat taxing experience that took about two hours to perform. There is a “newer” procedure being used that cuts the procedure time in half and is said to be far less taxing on both patient and physician. It’s called a “Pulsed Field Ablation” (PFA). The PFA procedure uses short high-voltage electrical pulses to burn out the unwanted nerves causing the extra beats. The “older” ablation procedures used heat or cold to kill the unwanted nerves.

The procedure is considered safe and is highly effective in ending AFib. If the AFib is eliminated, I may be able to stop taking the anticoagulant medication. Better yet, my pacemaker will be adjusted to a fully synchronous mode.

Pacemaker Synchronization

Modern pacemakers control both the top (atria) of the heart and the bottom of the heart (ventricles). The atria node tells the heart when to beat, and the ventricles follow along. With AFib, the atria typically have a rapid beat and the ventricles try to keep up with the unwanted faster beats. Having the whole heart beating too fast all of the time is not safe. In my case, I have a pacemaker with a defibrillator, and the defibrillator aspect of my pacemaker could cause the defibrillator to activate trying to slow down the heart rate. In other words, it could be a “mess”.

To prevent the mess from happening, my pacemaker physician disconnected contact between the atria and ventricles of my heart. In other words, even if the atria are sending an AFib related signal for the heart to beat faster, the ventricles will not recognize the signal coming from the atria. The ventricles are set to beat at 60 bpm no matter what. So, I now have another reason for lacking energy, my pacemaker is working at a suboptimal level and will remain that way until the AFib is under control. My physical activity is very limited, but I am gaining a modicum of additional energy. In the next few months, I have been told to take it easy and hope for the clot to dissolve, and that is exactly what I’m doing.

Acknowledgement

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Conflict of Interest

None.