

Rate vs Rhythm in 2023 for AFib

Announcer: Welcome to the Mayo Clinic Cardiovascular Continuing Medical Education podcast. Join us each week to discuss the most pressing topics in cardiology and gain valuable insights that can be directly applied to your practice.

Dr. Bell: Hello everyone, and again a very warm welcome to another in that series of interview with the experts. My name's Malcolm Bell, I'm the vice chair for Department of Cardiovascular Diseases here in Rochester. And joining me today is Dr. Chris DeSimone, who's Associate Professor of Medicine and a consultant in our Heart Rhythm Services Division. So Chris, thank you for being with us today.

Dr. DeSimone: My pleasure. Thank you for inviting me.

Dr. Bell: Yeah So we are here to talk about the rate versus rhythm control in 2023 in atrial fibrillation. And I think it's probably an understatement that atrial fibrillation is really an increasing or places an increasing burden of on cardiovascular disease currently. And today what I'd really like to start with focusing on is how do you approach the patient with new onset in atrial fibrillation in terms of rate versus rhythm control. Now I know you really wanna talk about ablation but let's just stay with medical therapy to start with and then we'll come to ablation in the moment.

Dr. DeSimone: Excellent. You've, you've hit the nail on the head. It is really exploding. Atrial fibrillation, we're seeing more and more patients with it. New onset previously treated or controlled atrial fibrillation and now it's gotten out of control. So it's really been a big burden on our healthcare landscape. But the good news is it's a really exciting time to be an electrophysiology especially for those of us that really love to treat patients with atrial fibrillation. The big news that's been coming out in the last couple events in the last couple of the meetings has been this rate versus rhythm controlling approach and a shift if you will, in the paradigm. You know, when a firm came out maybe almost 20 years ago now there's really no difference if you have atrial fibrillation and in terms of outcomes if you had them in a rate controlling approach versus versus a rhythm controlling approach. But now if we fast forward the last 10 years especially we've gotten much better in our equipment than our drug armamentarium and really ciphering out the patients that will benefit in addition to risk factor modifications from being in normal sinus rhythm akin to them being in atrial fibrillation especially when they have atrial fibrillation with rapid ventricular heart rates or atrial fibrillation with heart rates that have caused them to go into heart failure. So there's an explosion in the field on this in how to manage patients and really the paradigm shifted.

Dr. Bell: No, I do remember when a firm came out as you said about 20 years ago. I mean there was a collective sigh, at least among the non-electrophysiologist like me, that, oh things are gonna be simple. We don't need to put this patient in the hospital for all these drug trials. Is it fair

or unfair to say that, I mean the short the follow up that was relatively short, but is it fair or unfair to say that that's outdated and irrelevant today?

Dr. DeSimone: I would say follow up was short. Like you're saying. That's a good critique and the kind of outdated bit I really would strongly be in line with that. Our medicines have gotten better, not only in terms of rhythm controlling agents, but also our anticoagulation. So before all those patients would've been on most likely Coumadin but now we have the novel oral anticoagulants, many of them and those are helping reduce the stroke risk and that was a big part of that arm in that study. So the medicines have gotten better and our detection methods have certainly gotten better with the Apple watches and all kinds of Holvers and what you will or patients could monitor these things at home and pick these things up earlier. I mean obviously stroke prevention is so important in in these patients regardless of how we're treating them in in general.

Dr. Bell: So are, are you saying now that there's a shift towards more rhythm control? So someone you know who's had new onset atrial fibrillation maybe cardioversion with antiarrhythmic therapy and of course anticoagulation and then rate control if they do go into atrial fibrillation. So let's turn to ablation then. I mean where does ablation fit in in 2023?

Dr. DeSimone: So great, great points you bring up. I think it's an individualized strategy so it's hard to generalize for every person that comes in but it's kind of that atrial fibrillation patient or more likely I like to think about it as atrial fibrillation syndrome. What type or where they are in this atrial fibrillation syndrome and spectrum. So when they're coming in to see you with atrial fibrillation have they been in atrial fibrillation for a couple years and just have been asymptomatic? Has atrial fibrillation been picked up when they were at a colonoscopy or did they come in the emergency department or to the CCU in heart failure because they had atrial fibrillation which has caused them to go into a tachycardia induced cardiomyopathy. So it's not a one size fits all approach but in terms of who we feel is best for ablation or I would actually even step back further and say who's most appropriate for a rate controlling approach versus a rhythm controlling approach rhythm controlling approach being a rhythm being an antiarrhythmic agent such as the class one agents flecainide or propafenone or the class threes such as sotal or tikosyn. Sometimes even with amiodarone for short periods of time versus and or as an adjunct to catheter ablation. Now I think everyone deserves a chance at normal sinus rhythm 'cause it's really tough to tease out to these patients. Are they really symptomatic or have they just become used to their atrial fibrillation? And that's not only therapeutic to cardiovert but that's also diagnostic. If I try to diagnose someone and get them out of atrial fibrillation with a cardioversion if it's relatively simple then that atrial fibrillation's probably not been longstanding or it hasn't progressed. You know, it's really that paroxysmal, they're coming in and out of atrial fibrillation. Other patients, they're hard to get out and maybe they're in persistent or permanent atrial fibrillation and those are the patients, I'll trial a drug, load them up on it and then try a cardioversion again.

Dr. Bell: If, if I'm hearing you correctly here, you're really saying that we should really try to achieve sinus rhythm if we possibly can. And that may be initially with cardioversion and drug

therapy. But if we think about the alternative of rate control is there a downside to that? So that's where how we've been practicing for so many years now, but is there a downside that, for example they seem to be well controlled but maybe in two years time or five years time they're doing okay but at that point they are having problems. If there's something about those patients at that point that they're not gonna be so easy to treat with ablation

Dr. DeSimone: Definitely. So the downsides to that are usually we try to say well let's stay below a hundred average over 24 hours on a Holter monitor. And sometimes it takes a lot to get those patients in that rate controlling range. So the downside would be you're putting them on beta blockers you're putting them on calcium channel blockers. And especially if these are younger or active patients they really feel the side effects of those medicines. They kind of feel slowed down Overall I would say that's one downside. The second downside is the longer you're in atrial fibrillation, you know atrial fibrillation begets more atrial fibrillation. So when you have the paroxysmal atrial fibrillation that type of, if you will, AFib syndrome is far different than the patient that's moved all the way over into a persistent, so they've been in it for years or several months and they can't get out of it. It's a different thing. It's sort of like the, the, the horse getting right out of the barn early on when you're trying to show your atrial fibrillation and we call it paroxysmal it's more of a trigger based approach. All of the atrial fibrillation triggers is what we go after. And these are coming from the pulmonary vein musculature themselves. But as you progress to persistent atrial fibrillation then you get a trigger and substrate based issue. So you're having remodeling of the atrium, they get larger they get more scarred, they get more thicker lots of things that are going into where it was much easier to treat that person if you if you dealt with them early on compared to keep them on a rate control for 3, 4, 5 years and then down the road you can't get them out of atrial fibrillation or it's really tough to get them out of atrial fibrillation.

Dr. Bell: Yeah. Now you intimated there that ablation techniques you know have improved and you know the tools that you're using you know, for, for the ablation, could you just very quickly just tell us, you know, what is an optimal atrial fibrillation ablation procedure?

Dr. DeSimone: Yes. And And also what is it success and what are the risks? Yes, that's great question. So anything we wanna do in interventional cardiology or anything in medicine everything's gonna come with it risks and then there's gonna be its own benefits to that. Now we do not cure atrial fibrillation ablation we can't cure it yet. We're just not that smart enough. And the catheter technology is not smart there to say how can we make good ablation lesions? How can we keep these lesions settled And we don't know how well the patient's going to make these lesions settle after they're scarring over. So it's never a cure. We always make patients aware of that. The other thing it's not a cure or elimination for is if we do an ablation that does not alleviate or obviate your stroke risk, the stroke risk is still there. The cornerstone of therapy is still anticoagulation. Now nowadays when we do catheter ablation, everyone gets the standard pulmonary vein isolation procedure. So there's usually two or three or maybe two in one pulmonary veins on each side of the left atrium. And these are draining oxygenated blood from the lungs into the heart. And when we are born this muscle sleeve grows out from the left atrium and it gets caught up inside those pulmonary veins. Those are like the matchstick those are what lights the atrium on fire. When those get out that's what sets the left atrium into atrial fibrillation. So our standard approach, standard goal, and some people do this cryoablation where they freeze

tissue or with the radiofrequency ablation where the heat tissue is to do a pulmonary vein, what we call a WACA a wide area circumferential ablation around the outside within the heart of the veins. And what we're trying to do is let blood flow between the lungs and the heart but not electricity from those veins. 'cause those are the triggers. So what would be, for example, let's use an endpoint. What percentage of people would be free of atrial fibrillation, let's say at five years time after a successful ablation initially? Yep. So this is also a matter of debate in in, in our society and all these sure is what's the best endpoint? Is it timing to 30 seconds or more of atrial fibrillation or burden of atrial fibrillation? All the studies so far and many studies have done this in the past that it's time to first episode of ablation and with time to first episode of ablation, if someone's paroxysmal it's about 65 to about 80% being free of atrial fibrillation at one year's time. And then of course at five years time this dramatically goes down. So clearly not a cure but an improvement in symptoms. And this may require additional ablations or an adjunctive medical therapy on top of that. And the risks. The risks. So usually we're quoting around the range of one to 3% of risks. Now the major ones we're worried about are access site, groin, hematomas, they're bleeding. We're also going up into the heart and going outside of the pulmonary veins. But there's a risk that you could narrow or stenosis the pulmonary veins themselves. I would say there's a small risk and this is a lethal risk of something called an atrial esophageal fistula. So the esophagus is right behind the atrium where we're burning. We gotta keep a very close eye and minimize our time and heating of that area because there could be a communication which could be life-threatening. I would say other risks very small would be damage of coronary arteries near that area. Conduction system tissue requiring a pacemaker or sometimes damage to the valves. But these are much lower risks. I would quote overall one to 3% risk of this. And obviously there's gonna be a discussion about, you know the benefits trade off or risk and you know, versus the, the medical therapy and particularly those who you may be just focused on you know, on rate control.

Dr Bell: So it seems though there's been a paradigm shift here and I'm gonna give you the last word here Chris so maybe very, very quickly we're running outta time here. Just summarize your approach to the patient with new onset atrial fibrillation that is gonna need treatment.

Dr. DeSimone: Yes. So my approach, new onset atrial fibrillation I think those patients deserve a cardioversion and a chance to get back into sinus rhythm. If they feel better, then I would offer them and I let the patient dictate do they wanna trial an antiarrhythmic drug or do they want to try a catheter ablation? And sometimes they wanna choose both and sometimes they wanna choose the drug and then do the ablation if they break through. And that's completely that's a completely good argument and, and way to go. Second thing, if someone's in heart failure, so if the atrial fibrillation's causing what we think is a tachycardia induced cardiomyopathy, then I strongly urge that patient to maintain rhythm controlling approach. Usually we'll put that patient on amiodarone for a couple months, let the heart shrink down and heal and then perform a catheter ablation approach. It's really the, the, the tipping point would be if the patient has heart failure or not if the patient has no symptoms and the patient does not feel better after that cardioversion I do not pursue rhythm control right off the bat. It's really more so of am I getting the bang for my buck improving the patient's symptoms or am I improving their quality of life and overall mortality benefit if I could get them out of heart failure. And of course the

background of anticoagulation and you already A hundred percent safer now that we've got better agents.

Dr. Bell: Well, I think there's a tremendous number of people we're gonna take a lot from this, you know, discussion here. Chris, thank you so much for joining us today.

Dr. DeSimone: It's my pleasure. Thank you so much.

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