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A Look at Psychosocial Issues Post MI and With ICD

### IMPLANTABLE CARDIOVERTED DEFIBRILLATORS

What does the latest implantable cardioverted defibrillator research reveal? You are listening to ReachMD, The Channel For Medical Professionals. Welcome to the Clinician's Roundtable. I am Susan Dolan, your host and with me is Dr. Sue A. Thomas, Assistant Dean of the Ph.D. program at the University of Maryland School Of Nursing in Baltimore Maryland.

SUSAN DOLAN:

Dr. Thomas, welcome to the Clinician's Roundtable.

DR. SUE A. THOMAS:

Thank you very much. I appreciate this opportunity to discuss implanted cardioverted defibrillators with you.

SUSAN DOLAN:

How may deaths occur annually in the United States because of sudden cardiac deaths?

DR. SUE A. THOMAS:

Five years ago, we had up to a half million deaths out of the hospital caused by sudden cardiac arrest. The latest figures coming out, now were down to about 160,000 out of hospital cardiac arrests and this is because of the new devices called implanted cardioverted defibrillators.

SUSAN DOLAN:

What is the primary cause of sudden cardiac death?

DR. SUE A. THOMAS:

Sudden cardiac death is caused by lethal deadly rhythm disturbance in the heart of the patient which causes them to stop having all circulation and brings immediate death.

SUSAN DOLAN:

And how can this be prevented?

DR. SUE A. THOMAS:

Well, the treatment for all sudden cardiac arrests is a prompt defibrillation. Now you have all seen defibrillators that are external where they put the paddles on the outside of the patient and shock them. The implanted cardioverted defibrillator is a similar device, but it is implanted in the patient and can treat the arrhythmia or the lethal rhythm disturbance of the patient as it occurs.

SUSAN DOLAN:

What are the survival rates for patients with implantable devices?

DR. SUE A. THOMAS:

Well, the survival rates have been dramatically improved because of the advent of implanted cardioverted defibrillators. In the recent clinical trials, the mortality rate has gone down between 36 and 46% for those patients who have had this device implanted.

SUSAN DOLAN:

How are they implanted?

DR. SUE A. THOMAS:

It is just a 2-hour surgery where the physician or cardiologist makes a small incision under the collar bone in the upper chest and puts a small device within the patient's chest and has a wire connected to the heart where the wire can conduct a shock from the small device to the patient's heart.

SUSAN DOLAN:

How big are they?

DR. SUE A. THOMAS:

They are really quite small. They only weigh approximately 4 ounces. They are about a half inch thick and about 2 inches wide.

SUSAN DOLAN:

How do patients describe the shock from an ICD?

DR. SUE A. THOMAS:

Well, most patients don't experience a great deal of pain, but they say that it is a frightening experience. It can be very annoying because it absolutely stops you in your track because your heart has changed its rhythm and then you have the shock. The shock can be everything from a slight reaction from the patient to actually some patients actually can fall over because of the shock that comes to their heart.

SUSAN DOLAN:

What's the survival rate of patients with the implanted devices?

DR. SUE A. THOMAS:

Well, you know that really depends on the degree of underlying cardiovascular disease, but these implanted devices monitor the heart rhythm so they can see when the heart goes to arrhythmia and appropriately deliver a shock to terminate the arrhythmia and fix the patient's heart rhythm.

SUSAN DOLAN:

Describe the effect that this has on a patient's quality of life and their psychological status.

DR. SUE A. THOMAS:

These devices have been around since 1970s and at first, they were only implanted in people who had repeated episodes of these lethal rhythm disturbances in their heart and those patients really experience quite stressing response from having the implanted cardioverted defibrillator because these patients could be shocked an average of 6 times a year. Now, I said that the survival rate has increased and the number of sudden cardiac deaths have decreased and this is because we have a new patient population which are patients with heart failure who have been having these devices now, 50% of all heart failure patients will die in 1 year after diagnosis of the heart failure. Now, 50% of those die of heart failure and 50% of them die of sudden cardiac arrest. So, those new patients, the new heart failure patients are finding these implanted cardioverted defibrillators a very different experience because they don't have as many heart rhythm changes, so the machine shocks that may be once or twice a year and so they don't find them as distressing as the early patients who were having many more shocks because of their underlying heart disease.

SUSAN DOLAN:

And what is the fear? Is that they are going to be shocked or that it won't shock them when it needs to be shock them?

DR. SUE A. THOMAS:

Yes and it's both of these things, but there is only like a 20 seconds or less pause between the time the heart goes into this rhythm disturbance to the shock if delivered. So, the patient is aware that there has been a change in their heart rhythm and they know the shock is coming, but after that they feel fine, there is no after effects of pain.

SUSAN DOLAN:

What can healthcare professionals do to help ease the fear and anxiety for these patients?

DR. SUE A. THOMAS:

I think information just like we are giving today, the education of what is the amount of time between the heart going into this rhythm disturbance and the shock being delivered, what does the shock feel like, you know, if you can you should sit down so that you won't lose your balance when the shock occurs and also as the patient experiences the shock once or twice a year, we found over time with our research that over time the longer they've had the implanted cardioverted defibrillator in, the better they've adjusted to it because they know the experience of this device.

SUSAN DOLAN:

If you are just joining us, you are listening to the Clinician's Roundtable from reachmd.com on XM160, The Channel For Medical Professions. I am Susan Dolan, your host and with me is Dr. Sue A. Thomas, Assistant Dean of the Ph.D. program at the University of Maryland School of Nursing in Baltimore, Maryland discussing implantable cardioverted defibrillators.

Dr. Thomas, what does the research reveal?

DR. SUE A. THOMAS:

Well, the research reveals that these implanted cardioverted defibrillators are life-saving devices, but patients who have them implanted need to have education about them, they need to have support, their psychological distress should be monitored closely so we can early intervene if they are becoming anxious or depressed because of this device.

SUSAN DOLAN:

What are the early interventions?

DR. SUE A. THOMAS:

The interventions of this that have been most successful are family support groups, patient education groups. There are also support groups online for people with ICDs. Most manufacturers have a way that the patients can write in and discuss and have chat rooms. So, a patient with an ICD has multiple areas from, you know, a real life support group in their hospital to an online support group that they can discuss their device with other people who have those devices.

SUSAN DOLAN:

Are you engaged in research right now?

DR. SUE A. THOMAS:

We currently just finished a trial looking at the depression, anxiety, and social support for heart failure patients with ICDs and implanted cardioverted defibrillators and we found that those people who got the device were less depressed and anxious than those patients who were on medications over time. This is over 2-year period that patients start out the same, but the patients with the devices over 2 years with heart failure actually were less depressed and anxious than those on medications.

SUSAN DOLAN:

Oh ! That's interesting and what do you attribute that too?

DR. SUE A. THOMAS:

Well, I think again that the device reassured them that their heart rhythm will be maintained. I think Americans like a chore and least implanted cardioverted defibrillators actually can truly terminate the lethal arrhythmia at least in heart rhythm. So, I think there are just 2 things, we love technology and we love to be taken care of competently and the implanted cardioverted defibrillators are actually saving these patients' lives.

SUSAN DOLAN:

What future research is planned?

DR. SUE A. THOMAS:

More research needs to be done, especially by nurses to evaluate the patients who become anxious and depressed with these devices and provide them the patient information and the support that they need to adjust to having a device in their life.

SUSAN DOLAN:

Describe the holistic model of cardiovascular health.

DR. SUE A. THOMAS:

Well, if the model is a biological, psychological, and social model of health, rather than just looking at the biological model which is changes in your cardiovascular health leading to a rhythm disturbance, we look at the psychological factors whether your anxious and depressed can affect your heart and the social factors, what kind of social support actually decreases anxiety and depression. So it's interactive model looking at all the factors in the person's life, their family, their support, their psychological status, and their physiological status to predict whether they will maintain and increase their health or their health will deteriorate.

SUSAN DOLAN:

Dr. Thomas, what led to your interest in this area?

DR. SUE A. THOMAS:

Well, I started out as a nurse in the coronary care unit and after I mastered the technical skills and the advanced clinical skills I needed, I realized that the family and the social support that our nurses provided to these patients were key to their recovery. So, that was the first idea I had was how do we really as bedside nurses help these patients adjust to all the technology and life-saving advances that we are giving them and how do we talk to the patients and their families in ways that they can understand us and we can support them. These nurses are at the bedside 24x7 and we are the people who really provide the education and support these patients need.

SUSAN DOLAN:

How can listeners learn more?

DR. SUE A. THOMAS:

Well, I would encourage those people who have a device to go their manufacturer's website which really have a great deal of information about your specific device and the American Heart Association has a very good website that tells you about implanted cardioverted defibrillators in general.

SUSAN DOLAN:

Dr. Thomas, what's your take-home message?

DR. SUE A. THOMAS:

Well, I think, the take-home message is like many nurses we are very clear that our role in cardiovascular health is to help the families

support the patients. I also would, that we haven't brought it up here, is also encourage the patients to exercise, walking daily increases the cardiovascular health of the patient and decreases stress and anxiety and again, the other thing we always urge our patients and families to do is ask questions, follow your treatment plan, and stay in close communication with health professionals.

SUSAN DOLAN:

Thank you to Dr. Sue A. Thomas who has been our guest discussing implantable cardioverted defibrillators.

I am Susan Dolan. You have been visiting to the Clinician's Roundtable from ReachMD, The Channel For Medical Professionals. Please visit our website at [reachmd.com](http://reachmd.com) which features our entire library through on-demand podcasts or call us toll free with your comments and suggestions at 888-639-6157. Thank you for listening.

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If you are fishing for ways to reduce the risk of heart disease, you might start with the seafood rich diet, typically served up in Japan. I am Dr. Larry Kaskel. Please join me on the next Clinician's Roundtable. My guest is Dr. Akira Sekikawa and we will talk about his recent study showing the importance of fish oil in reducing the risk of heart disease. Please tune in.

I am Dr. Kathleen Margolin, join me when my guest will be Dr. George Gollin, Professor of Physics at University of Illinois. We will be discussing the shady business of diploma mills.

This is Dr. Jason Bornholdt. Join me this week on advances in medical imaging. We will be speaking with Dr. David Helmond. The topic is ultra-portable ultrasound.

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