Stroke and Afib: New Options in Discovery

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Objectives

• What is a Stroke?
• What are some risk factors for Stroke?
• What is Afib and how does it increase stroke risk?
• What is a Cryptogenic Stroke and how is it treated?
• What specific device is being used for stroke patients to help detect Afib?
• How can Afib patients best take care of themselves?
Stroke: Do you know what it is?

- Stroke is referred to as “brain attack.”
- Stroke is a sudden neurological deficit caused by interruption of blood flow to the brain.
- Brain has blood vessels. Like a tree, big branches and small ones which carry nutrients. If larger blood vessels are blocked more of the brain can be damaged

- Manifestations of the stroke depend on which region or extent of brain affected
Stroke Facts…

• In the United States:
  – New stroke every 45 seconds (700,000/ yr)
  – Death from a stroke every 3 minutes (150,000/yr)
  – 3rd leading cause of death
  – #1 leading cause of adult disability
  – Sound like something to avoid?
Stroke Types

An interruption of blood flow to the brain which leads to brain injury.

Ischemic = “blockage”: 85%

Hemorrhagic = “bleeding”: 15%
**Ischemic Stroke Types: 2 main**

What may cause the blockage?

**Thrombosis**
- Fatty Plaque
- Blockage of a brain blood vessel due to underlying narrowing from fatty plaque formation

**Embolism**
- Blood clot
- A blood clot from the heart is dislodged and travels to the brain.
Stroke “Work Up” in the Hospital

- CT CTA and/or MRI of the Brain
- Labs
- Neurological Exam/Medical History
- Heart/Cardiac Function Tests
Where did your Stroke come from in the Brain?

• If we know this we can target how to best prevent another stroke!
• Do it by ruling things out
• Is Yours “Undetermined”? ??

What is Atrial Fibrillation?

• Atrial fibrillation is a type of heart rhythm disorder called an ‘arrhythmia’

• Atrial fibrillation is a condition that occurs when there is a fault in the electric activity in the heart muscle, causing the heart to beat irregularly and in an uncoordinated way.

When the rate of the electrical signals is very high, the atria quiver instead of contracting properly. They fail to pump all the blood out of the atria. The blood can pool and may form a clot. If a blood clot leaves the atria it can block an artery in the body, causing severe complications, such as stroke.
What are the symptoms of Afib?

- FAST, pounding, irregular heart beat
- Shortness of breath
- Tiredness
- Dizziness or fainting
- Chest pain or tightness
- **YOU MAY NOT HAVE ANY SYMPTOMS!**
Risk factors for Developing AFib

- Increasing age
- High blood pressure
- Diabetes
- Heart valve disease
- Heart failure
- Previous heart attack
- Heart surgery
- Thyroid problems
- Sleep apnea
- Excessive alcohol intake
- Illegal drug use
What is my Stroke Risk?

• **CHADS2** Score – main tool
• Used for Afib patients to help doctors determine risk for stroke and which medication regimen is right
• Higher score – more likely to be placed on Coumadin vs Aspirin & higher risk for Stroke

• *CHF, HTN, Age >75, DM or Prior Stroke*
How Common is Afib?

• Most common heart arrhythmia
• More than 2.7 million Americans have Atrial Fib
• Risk increases with age
• Number of people with A Fib doubles every decade of life after age 50
• 1 in 200 people between 50 and 59 have A Fib
• 1 in 10 people over 80 years old have A Fib
How can Afib cause a Stroke? Watch and See….

- https://www.youtube.com/watch?v=K_uccmtCqZI
- Animation explained
Afib-Stroke Connection:

• 15% of Strokes are due to untreated Afib per American Heart/Stroke Assoc.
• Afib increases your chances of a Stroke 5 times that of the general population
• * 2x more likely for AF related stroke to be fatal as non AF stroke
• Uncontrolled High Blood Pressure is the most common cause of Afib and the highest risk factor for Stroke.


Afib is more common in women than men after age 75. Women over 75 should be screened for Afib
But what if they are not sure you have Afib??

They have to monitor your heart to see if it can be picked up.
What type of monitors are best?

- Continuous is better than intermittent
- Longer the better so long term with hopes of picking up AF (takes longer than 30 days)
- Easy to use or less invasive to patient’s activity
- Highly Sensitive

**Answer:** at Upstate--Implantable Reveal LINQ – Medtronic

* 2016 ESC (European Soc of Cardiology) guidelines recommend monitoring with Reveal LINQ in cryptogenic stroke patients
REVEAL LINQ™ SYSTEM ADVANTAGES
REVOLUTIONIZING CARDIAC MONITORING

The smallest, most powerful insertable cardiac monitor

- One-third the size of a AAA battery (1.2 cc)
- Up to a 3-year longevity for long-term monitoring\(^1\)
- MR Conditional at 1.5 and 3.0 Tesla
- Minimally invasive, simplified insertion procedure\(^2\)
- 96.7% of patients very satisfied or satisfied with Reveal LINQ ICM after insertion\(^3\)

\(^1\) Reference the Reveal LINQ ICM Clinician Manual for usage parameters.
REVEAL LINQ™ SYSTEM ADVANTAGES
SIMPLE INSERTION PROCEDURE

Best location: 45 degrees to sternum over 4th intercostal space, 2 cm from left edge of sternum

97% of physicians found the insertion tool simple and intuitive.¹

Requires minimal procedure time and clinical resources

**TRURHYTHM™ DETECTION INSIDE ACCURACY EVOLUTION**

- **2009**: Reveal™ XT
  - Industry’s first AF detection algorithm

- **2011**: Reveal™ XT
  - With FullView™ Software
  - NEW Pause algorithm with diminishing R-wave analysis
  - NEW AF algorithm and improved noise discrimination

- **2014**: Reveal LINQ™
  - NEW simplified insertion and tight pocket for better signal
  - NEW AF algorithm with increased accuracy

- **2017**: TruRhythm™ Detection
  - Streamlined episode review for clinic efficiency \(^1,2\)
  - NEW algorithms with
    - Smart filtering
    - Self-learning intelligence

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Our Experience so far …..

Once placed: Follow up with Cardiology
I have Afib! Don’t want a Stroke What can I do?

Your Doctor/Provider and You

UPSTATE
Comprehensive Stroke Center
Treatment Goals for Afib

- Maintain Normal Sinus Rhythm (regular, steady)
  - Rate Control
  - Decrease Symptoms
  - Decrease Stroke Risk
Medication Therapy

Medication Therapy Goals for Atrial Fibrillation include:

- Maintaining normal heart rhythm
  - Antiarrhythmics (amiodarone, flecaniade, sotalol)
- Controlling the heart rate
  - Beta Blockers (metoprolol, atenolol, carvedilol, bisoprolol)
- Preventing stroke NOAC drugs
  - Anticoagulants, Coumadin (warfarin), Pradaxa, (Dabigatran) Eliquis (Apixaban), Xarelto, (Rivaroxaban)

67%: decrease in AF patient stroke risk with oral anticoagulant
Procedures Used in Treatment

- **Cardioversion**: heart is shocked to convert rhythm - done in a EP lab or surgery center
- **Ablation**: uses a catheter where an energy source is used to destroy the abnormal electrical paths in the heart - done in EP lab or surgery center
- **Others**: involve Pacemakers, incisions/Maze Procedure to heart itself
- **Success rates vary, may repeat**
Control? How to do it…

Support your **Heart**

- **#1 Medication:** take blood thinners **AS DIRECTED!**
- Follow Medication related instructions such as blood draws, BP checks and MD visits: **be diligent!**
- Medication: carry a list of your meds with you and give 1 to your Emergency contact, keep it updated.
More Control……

#2 : Heart Healthy Diet Choices

- Control Sugar Intake--- High Blood Sugar stresses the heart
- A little goes a long way! Small changes are good too
- Watch FAT and Cholesterol---- many many options now
- Ask for a Nutrition consult : Dietician
More Control..... #3: MOVE!!

Any weight loss will reduce strain on the heart
Do what **YOU** can do! Not strenuous!!
Anything in moderation and regularly is the ticket!
More Control…..
#4: Sleep Apnea & Lower Stress

Breathe
Laugh
Meditate
Avoid Stressful situations: say No
Do fun things/Hobbies
Get good sleep/rest
More Control…..

#5: Get educated/stay aware

• Know your body: keep it checked
• Know your resources: MD office, library, YMCA, Office of the Aging
• Ask for help! Spouse, child, friend to remind and support
• Be Smart: use tools to help: alarms, pill boxes, frig magnets, smart phones, notebook or logs
• Read what you can
Signs of Stroke

• Sudden numbness or weakness, especially on one side of the body
• Sudden confusion, trouble speaking or understanding
• Sudden trouble seeing
• Sudden dizziness, trouble walking or loss of balance
• Sudden, severe headache
Think “FAST”

SPOT A STROKE

FACE DROOPING
ARM WEAKNESS
SPEECH DIFFICULTY
TIME TO CALL 911

Stroke Warning Signs and Symptoms
What Next? Panic?

• **NO!!! Call 911**
  - Don’t try to bring the person yourself
  - EMS communicates with the hospital and can help if symptoms worsen or change
  - Do not ignore the symptoms even if they go away!!

*UPSTATE Comprehensive Stroke Center*
What is a Comprehensive Stroke Center?

- Certified by DNV Healthcare
- Cares for ALL types of stroke patients
- **24/7** access to endovascular procedures
- **24/7** on site neurosurgical availability
- Three levels of specialized neuroscience nursing care
  - Neuro ICU
  - Neuro Step-down
  - Neuro floor
- Multidisciplinary approach to stroke care across the continuum of the disease process
- Catheter based therapy for patients beyond the tPA window.
- Only 6 Comprehensive Stroke Centers in NYS
Pass the Word about Stroke!

- Tell others about **F-A-S-T**
- Friends, Family, Colleagues, Church Groups
- Talk it up!!
- THANK YOU…….

UPSTATE Comprehensive Stroke Center
References

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- Atrial Fibrillation know your treatment options presentation by E. Ohern, RN and D. Walborn, RN Feb 2016.
- www.StopAFib.org
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