LAA Closure with the Watchman versus Amplatzer Cardiac Plug

Horst Sievert, Annkathrin Brauth, Isabel Schultmeyer, Patrick Boehm, Jonas Kuropka, Ilona Hofmann, Undine Pittl
CardioVascular Center Frankfurt,
Frankfurt, Germany
Watchman Device

- Nitinol frame with PET membrane and fixation barbs
- CE mark
- Proven to be non-inferior to anticoagulation
  - Randomized PROTECT AF trial and large registries
Watchman Device

- Frame sits in the LAA
- Fixation barbs prevent dislodgement
- PET membrane gets covered by endothelium
Amplatzer Cardiac Plug ACP

- Nitinol wire mesh with distal plug and proximal disk connected by a central waist
- Polyester patch inside
- CE mark
- So far only retrospective registries
  - Results of prospective EU registry are pending
  - Randomized trial just started
Amplatzer Cardiac Plug ACP

- Plug sits in the LAA
- Hooks prevent dislodgement
- Umbrella closes the orifice
Is one better than the other?

- It is rare that a LAA can not be closed
  - less than 5% with all devices
- There are no data comparing the different devices head to head
- You can almost use what you are used to use
- However, the devices have
  - some specific exclusion-inclusion criteria
  - some advantages and disadvantages in specific anatomical subsets
Size of the LAA

• **Watchman:**
  - LAA ostium has to be 17-29 (-31) mm

• **ACP**
  - LAA ostium has to be 10-28mm
Morphology of the LAA

• Watchman:
  - Minimum "functional" LAA length should be at least equal to device diameter

• ACP
  - Minimum "functional" LAA length 10mm
Watchman is more forgiving regarding sheath position
ACP
Landing Zone
ACP
Sheath orientation

Ideal !!
ACP
Sheath orientation is more important

Ideal !!
Difficult!!
Difficult!!
Sheath orientation not so important with the Watchman
Watchman
Landing Zone
Watchman
Sheath orientation

optimal
Sub-optimal
optimal
still ok
still ok
ACP requires more than the Watchman a well defined landing zone and a perpendicular orientation of the sheath in relation to the LAA ostium.
What's about different LAA shapes?
Ideal for everything!!
Not as easy as it looks!

No good landing zone!
Not as easy as it looks!

ACP ?
Not as easy as it looks!

ACP?
Not as easy as it looks!

ACP?
Not as easy as it looks!

ACP?

Here you have to measure precisely!

Precisely where you want to place the device
Not as easy as it looks!

And Watchman?
Not as easy as it looks!

Watchman?

But only if there is enough space!

Could be easier
What's that?
What's that?
What's that?
Complex morphology
Complex morphology

Difficult to place an ACP right here!
Complex morphology

But rather easy here!
Complex morphology

And Watchman also easy
– if the functional landing zone is long enough
Does one "look nicer" than the other?
ACP: Looks "nice"

Final position: TEE and Angiogramm
Watchman: Looks "nice"

Final position: TEE and Angiogramm
All LAAs look nice ...

... as soon as they are closed
Other considerations

• In case of device embolisation it is easier to snare and extract the Watchman than the ACP
• With Watchman one sheath size fits for all device sizes
  • The sheath can be used for calibration
  • Decision about device size can be made after sheath insertion
• With ACP no quantitative measurements are needed after device implantation
• That one LAA closure device is effective in stroke prevention does not mean necessarily that all other devices are effective as well
  - Data are still much more solid for Watchman
• To compare the safety profile of different devices a randomized study is needed
When to use which device?

- **Very short LAA**
  - ACP may be better than Watchman
- **Very large LAA (>28mm)**
  - Watchman may be better (up to 31mm)
- **Multiple proximal lobes**
  - ACP may be better (short landing zone, umbrella may cover all lobes)
- **But if there is a bad angle between delivery system and LAA**
  - Watchman may be better
- **In 95% of all patients you can use ever one**
LAA 2012 ASIA PACIFIC
MAY 5, 2012 | SINGAPORE

How to Close the Left Atrial Appendage
www.csi-laa.org