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VersaCross Radiofrequency System Reduces Time to Left Atrial Access versus Conventional Mechanical Needle

HIGHLIGHTS

The study found LAAC sheath delivery with the **VersaCross™** RF Transseptal Solution was:

- Efficient: Transseptal puncture and LAAC sheath delivery on average in under 7 mins.
- Exchangeless: Faster LA access by combining a starter wire, RF transseptal device, and exchange rail in a 3-in-1 solution.

• Effortless: Controlled RF puncture with a single wire.

INTRODUCTION

- Left atrial (LA) catheterization requires numerous device exchange steps, and has associated risks and safety concerns.
- ► The VersaCross™ RF Transseptal Solution (Baylis Medical*) enables vascular cannulation, transseptal puncture (TSP), and device exchange using a single RF-tipped pigtail wire.

METHODS

- Consecutive series of left atrial appendage closure (LAAC) using WATCHMAN™ (Boston Scientific) or Amulet™ (Abbott) devices were retrospectively evaluated.
- Femoral access was obtained for inferoposterior TSP using two methods:

Conventional approach (n=10):

 Requiring a starter wire, sharp mechanical needle (BRK-1[™] Transseptal Needle, Abbott), fixed curve sheath (Swartz[™] Transseptal Guiding Introducers, Abbott), and stiff exchange wire (Amplatz Super Stiff[™], Boston Scientific or **ProTrack[™]** Pigtail Wire, Baylis Medical)

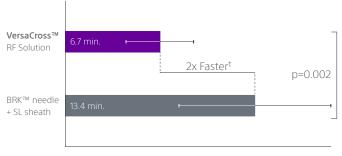
VersaCross[™] RF Transseptal Solution (n=10):

- Comprised of the VersaCross™ RF Wire, Sheath, and Dilator
- Efficiency was assessed in terms of time from femoral access to TSP, delivery of LAAC sheath in the LA, device release, overall procedure, and fluoroscopy use.
- Safety was assessed in terms of intraprocedural and in-hospital complications.

RESULTS

- LAAC success was 100% using both methods, with no complications.
- Significant improvement in LA access times using VersaCross™ RF Transseptal Solution vs. conventional method:
 - Shorter time to TSP [4.1±2.5 min vs. 8.4±4.0 min (p=0.009)]
 - Less time for LAAC delivery sheath into LA [6.7±2.4 min vs. 13.4±5.4 min (p=0.002; Figure 1)]
- ► Trend for overall procedural improvement using VersaCross™ RF Transseptal Solution vs. conventional method:
 - Shorter time to device release [23.7±6.4 min vs. 31.2±10.0 min (p=0.062)]
 - Less fluoroscopy use [7.2±2.2 min vs. 11.4±5.9 min (p=0.061)]

Time for LAAC Sheath Delivery



Time to LAAC sheath delivery (from femoral to LA access)

Figure 1. LAAC sheath delivery is two times faster using the **VersaCross™** RF Transseptal Solution than the conventional workflow.[↑]

DISCUSSION & CONCLUSIONS

▶ VersaCross™ RF Transseptal Solution combines a starter wire, transseptal needle, and exchange guidewire for faster LA access, and may improve overall procedural efficiency.

* A wholly-owned subsidiary of Boston Scientific Corporation.

Brief Summary | VersaCross[™] RF Wire

CAUTION: Federal law (USA) restricts this device to sale by or on the order of a physician. Rx only. Prior to use, please see the complete "Instructions for Use" for more information on Indications, Contraindications, Warnings, Precautions, Adverse Events, and Operator's Instructions.

INDICATIONS FOR USE: The VersaCross™ RF Wire is indicated for creation of an atrial septal defect in the heart.

CONTRAINDICATIONS: The VersaCrossTM RF Wire is not recommended for use with any conditions that do not require the creation of an atrial septal defect. The Connector Cable is not recommended for use with any other Baylis RF Generator or any other device.

WARNINGS: • Laboratory staff and patients can undergo significant x-ray exposure during RF puncture procedures due to the continuous usage of fluoroscopic imaging. This exposure can result in acute radiation injury as well as increased risk for somatic and genetic effects. Therefore, adequate measures must be taken to minimize this exposure. • The VersaCross[™] RF Wire and Connector Cable are intended for single patient use only. Do not attempt to sterilize and reuse either devices. Reuse can cause patient injury and/or the communication of infectious disease(s) from one patient to another. Reuse may result in patient complications. • The VersaCross[™] RF Wire with electrocautery or electrosurery operator cables an result in electrocuro of the patient and/or operator injury. • The Connector Cable must only be used with the RFP-100A Baylis RF Generator and the included VersaCross[™] RF Wire entropatible crosssory devices and and/or operator. • The VersaCross[™] RF Wire must be used with o0.35" compatible transseptal sheath and/or operator injury. • The VersaCross[™] RF Wire must be used with 0.035" compatible transseptal sheath and/or operator. Use to were and may cause patient injury. • The VersaCross[™] RF Wire must be used with 0.035" compatible transseptal sheath and/or operator. Use of incompatible accessory devices and may cause patient injury. • The VersaCross[™] RF Wire has only been validated for transseptal puncture use through VersaCross[™] RF Wire show the integrity of the VersaCross[™] RF Wire is not intended for use with neonatal patients (i.e. less than one month of age). Do not attempt to tran neonatal patients with the VersaCross[™] RF Wire.

PRECAUTIONS: • In order to prevent the risk of ignition, ensure that flammable materials are not present in the room during RF power application. • Careful manipulation of the VersaCross[™] RF Wire must be performed to avoid vessel trauma. If resistance is encountered, DO NOT use excessive force to advance or withdraw the VersaCross[™] RF Wire or ancillary sheath and/or dilator assembly. Excessive force may lead to bending or kinking of the device limiting advancement and retraction of sheath and/or dilator device. • The Baylis RF Generator is capable of delivering significant electrical power. Patient or operator injury can result from improper handling of the VersaCross[™] RF Wire and/or DIP electrode, particularly when operating the device. • During power delivery, the patient should not be allowed to come in contact with ground metal surfaces. • If using electroanatomical mapping guidance, it is recommended to use it along with alternative imaging modality in the event there is loss of visibility of the device.

ADVERSE EVENTS: Adverse events that may occur while creating an atrial septal defect include: • Tamponade • Sepsis/Infection • Thromboembolic episodes • Vessel perforation • Atrial Fibrillation • Myocardial Infarction • Vessel spasm • Sustained arrhythmias • Atrial Flutter • Hemorrhage • Vascular thrombosis • Perforation of the myocardium • Hematoma • Allergic reaction to contrast medium • Ventricular Tachycardia • Pain and Tenderness • Arteriovenous fistula • Pericardial effusion • Tachycardia • Vascular Trauma • Additional Surgical Procedure • Wire entrapment/ entanglement • Foreign body/wire fracture

EP-1504711-AA

Brief Summary | VersaCross™ Transseptal Dilator

CAUTION: Federal law (USA) restricts this device to sale by or on the order of a physician. Rx only. Prior to use, please see the complete "Instructions for Use" for more information on Indications, Contraindications, Warnings, Precautions, Adverse Events, and Operator's Instructions.

INDICATIONS FOR USE: The VersaCross¹¹⁴ Transseptal Dilator is indicated for introducing various cardiovascular catheters to the heart, including the left side of the heart through the interatrial septum.

CONTRAINDICATIONS: There are no known contraindications for this device.

WARNINGS: • Laboratory staff and patients can undergo significant x-ray exposure during interventional procedures due to the continuous usage of fluoroscopic imaging. This exposure can result in acute radiation injury as well as increased risk for somatic and genetic effects. Therefore, adequate measures must be taken to minimize this exposure. • The VersaCross[™] Steerable Sheath kit. Is intended for single patient use only. Do not attempt to sterilize and reuse the VersaCross[™] Steerable Sheath kit. Reuse can cause the patient injury and/or the communication of infectious disease(s) from one patient to another. Failure to follow this instruction may result in patient complications • Maintain continuous hemodynamic monitoring throughout procedure • Provide continuous heparinized saline infusion while the introducer remains in vessel.

PRECAUTIONS: • Careful manipulation must be performed to avoid cardiac damage, or tamponade. Sheath, dilator and guidewire advancement should be done under fluoroscopic guidance. If resistance is encountered, DO NOT use excessive force to advance or withdraw the device.

ADVERSE EVENTS: Adverse events that may occur while using the VersaCross¹¹ Sheath include: • Infection • Air embolus • Local nerve damage • Vasovagal reaction • Dissection • Vessel spasm • AV fistula formation • Atrial septal defect • Pseudoaneurysm • Aortic puncture • Arrhythmias • Perforation and/or tamponade • Hematoma • Hemorrhage • Catheter entrapment • Thromboembolic events • Stroke • Valve damage • Myocardial infarction • Pacemaker/defibrillator lead displacement • Pulmonary edema • Coronary artery spasm and/or damage • Vessel trauma • Pericardial/pleural effusion

EP-1506213-AA

Brief Summary | VersaCross™ Transseptal Sheath

CAUTION: Federal law (USA) restricts this device to sale by or on the order of a physician. Rx only. Prior to use, please see the complete "Instructions for Use" for more information on Indications, Contraindications, Warnings, Precautions, Adverse Events, and Operator's Instructions.

INDICATIONS FOR USE: The VersaCrossTM Transseptal Sheath kit is used for the percutaneous introduction of various types of cardiovascular catheters and guidewires to all heart chambers, including the left atrium via transseptal perforation/puncture.

CONTRAINDICATIONS: There are no known contraindications for this device.

WARNINGS: • Laboratory staff and patients can undergo significant x-ray exposure during interventional procedures due to the continuous usage of fluoroscopic imaging. This exposure can result in acute radiation injury as well as increased risk for somatic and genetic effects. Therefore, adequate measures must be taken to minimize this exposure. The use of echocardiography is recommended. • The VersaCross[™] Transseptal Sheath kit is intended for single patient use only. Do not attempt to sterilize and reuse the VersaCross[™] Transseptal Sheath kit. Reuse can cause patient injury and/or the communication of infectious disease(s) from one patient to another. • Do not attempt direct percutaneous insertion of the sheath without the dilator as this may cause vessel injury. • Careful manipulation must be performed to avoid cardiac damage or tamponade. Sheath advancement should be done under fluoroscopic guidance. Echocardiographic guidance is also recommended.

PRECAUTIONS: • Careful manipulation must be performed to avoid cardiac damage or tamponade. Sheath, dilator and guidewire advancement should be done under fluoroscopic guidance. If resistance is encountered, DO NOT use excessive force to advance or withdraw the device. • The VersaCross[™] Transseptal Sheath is compatible with introducer sheaths TIFr or larger. • The VersaCross[™] Transseptal Sheath and Dilator are compatible with transseptal devices and guidewires .035" or smaller. • The VersaCross[™] Transseptal Sheath kit is NOT compatible with transseptal needles such as the "NRG[™] Transseptal Needle".

ADVERSE EVENTS: Adverse events that may occur while using the VersaCross ^{IM} Transseptal Sheath kit include: • Infection • Air embolus • Local nerve damage • Hemorrhage • Embolic events • Vessel spasm • AV fistula formation • Atrial septal defect • Pseudoaneurysm • Perforation and/or tamponade • Arrhythmias • Pericardial/pleural effusion • Hematoma • Vessel trauma • Valve damage • Catheter entrapment

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