**Impact of Early Surveillance on Safety Signal Identification in the CathPCI DELTA Study**

**Supplemental Appendix**

**Supplemental Appendix Table 1:** VCD models produced by the same manufacturer were grouped together into "Device Families" if they shared mechanisms and common implant materials. Only VCD which delivered an implanted component to the level of the artery were included as "active VCD".

| Device | Manufacturer | Family |
|---|---|---|
| Angiolink EVS | Angiolink | AngioLink |
| Angio-Seal<br>Angio-Seal Millenium<br>Angio-Seal STS<br>Angio-Seal STS PLUS<br>Angio-Seal VIP<br>Angio-seal Evolution | St. Jude Medical | AngioSeal |
| Arstasis | Arstasis Inc | Axera |
| Duett Pro Sealing-2210<br>Duett Sealing Device | Vascular Solutions | Duett |
| Femoral Introducer Sheath and Hemostasis Device | MIR | MIR |
| Mynx<br>Mynx-M5<br>Mynx Cadence<br>MynxGrip | Access | Mynx |
| Closer S<br>Perclose A-T Perclose ProGlide<br>Prostar XL 8 Suture | Abbott Laboratories | Perclose |
| Starclose Vascular Clo Sys<br>Starclose SE | Abbott Laboratories | Starclose |
| Sutura Superstitch device | Sutura | Sutura |
| Techstar<br>Techstar XL | Abbott Laboratories | Techstar |
| Vasoseal<br>Vasoseal Elite<br>VasoSeal ES<br>VasoSeal Low Profile<br>VasoSeal VHD | Datascope Corp. | Vasoseal |
| X-Press | X-site Medical | X-site |

**Covariates Included in Propensity Score Model and Definitions**

**Age (years)**

**Female Gender**

**Diabetes:** Diabetes mellitus is diagnosed by a physician or can be defined as a fasting blood sugar greater than 7 mmol/l or 126 mg/dL. It does not include gestational diabetes.

**Chronic Lung Disease:** A history of chronic inhalation reactive disease (asbestosis, mesothelioma, black lung disease or pneumoconiosis) qualifies as chronic lung disease. Radiation induced pneumonitis or radiation fibrosis also qualifies as chronic lung disease. A history of atelectasis is a transient condition and does not qualify.

**Hypertension:** Hypertension is defined by any one of the following: 1. History of hypertension diagnosed and treated with medication, diet and/or exercise 2. Prior documentation of blood pressure greater than 140 mm Hg systolic and/or 90 mm Hg diastolic for patients without diabetes or chronic kidney disease, or prior documentation of blood pressure greater than 130 mm Hg systolic and/or 80 mm Hg diastolic on at least two occasions for patients with diabetes or chronic kidney disease 3. Currently on pharmacologic therapy for treatment of hypertension.

**Creatinine pre-procedure (mg/dL)**

**Peripheral Artery Disease:** Peripheral arterial disease can include: 1. Claudication, either with exertion or at rest. 2. Amputation for arterial vascular insufficiency. 3. Vascular reconstruction, bypass surgery, or percutaneous intervention to the extremities (excluding dialysis fistulas and vein stripping). 4. Documented aortic aneurysm with or without repair. 5. Positive non-invasive test (e.g., ankle brachial index <=0.9); ultrasound, magnetic resonance, computed tomography, or angiographic imaging of > 50% diameter stenosis in any peripheral artery (e.g., renal, subclavian, femoral, iliac). For purposes of the Registry, periph

**Emergent Procedure**
**NSTEMI on Presentation:** The patient was hospitalized for a non-ST elevation myocardial infarction (STEMI) as documented in the medical record. Non-STEMIs are characterized by the presence of both criteria: a. Cardiac biomarkers (creatinine kinase-myocardial band, Troponin T or I) exceed the upper limit of normal according to the individual hospital's laboratory parameters with a clinical presentation which is consistent or suggestive of ischemia. ECG changes and/or ischemic symptoms may or may not be present. b. Absence of ECG changes diagnostic of a STEMI

**Bivalirudin exposure**

**Left main coronary artery PCI**

**Number of vessels treated during index PCI**

**Fluoroscopy time (minutes)**

**Total number of PCI during admission**

**Adverse Outcome Definitions**

All covariates and adverse clinical events were defined according to the CathPCI Registry version 4.4 data definitions.

***Any Vascular Complication*** denotes the composite of bleeding at access site, hematoma at access site, retroperitoneal bleeding, and other vascular complications requiring treatment.

***Other vascular complications requiring treatment*** could include, but were not limited to, access site occlusions, peripheral embolizations, dissections, pseudoaneurysms and/or AV fistulas. Any noted vascular complication must have had an intervention such as a fibrin injection, angioplasty, or surgical repair to qualify. Prolonged pressure did not qualify as an intervention, but ultrasonic guided compression after making a diagnosis of pseudoaneurysm did qualify. A retroperitoneal bleed or hematoma requiring transfusion is not a vascular complication under this data element.