One Hospital's Path to Develop an IVC Filter Registry

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Background

Inferior Vena Cava (IVC) filters are small cage-like devices placed percutaneously into the inferior vena cava to prevent propagation of thrombus into the pulmonary arteries. Currently there are two available types of filters, permanent filters and retrievable filters. In 2014 the FDA initiated a comprehensive analysis of filter placement and issued a statement recommending implanting physicians and clinicians responsible for the ongoing care of patients with retrievable IVC filters consider removing the filter as soon as protection from pulmonary embolism is no longer needed. Prior to the hospital’s structured system, there was a low rate of follow-up. The hospital had three separate databases involving two different implanting groups. Therefore, Parkview Health felt it was imperative to develop a comprehensive approach to IVC filter placement and follow-up to ensure good patient outcomes and comply with FDA recommendations.

Objective

Develop a single hospital process for following IVC filter patients to ensure proper indication for procedure order, short term, long term outcomes along with procedural indications.

Methods

First we had to determine who was ordering the implantation and removal of the filters. A team was established among Cardiology, Trauma, Radiology, Hospitalists and Intensivists to combine efforts to ensure IVC filter patients were appropriately managed and monitored. The team developed an IVC Filter Protocol, IVC Filter Registry and IVC Filter Clinic. The IVC Filter Registry was built within Office 365-Sharepoint®. An additional Interventional Cardiology Nurse Practitioner was hired and trained to coordinate the IVC Filter Clinic.

Indications for Placement

Does the patient have an acute VTE and inability to anticoagulate?

Does patient have recurrent VTE despite adequate anticoagulation?

Is the patient hemodynamically unstable with massive pulmonary embolus as an adjunct to anticoagulation?

Consider case-by-case IVC filter prophylaxis in high-risk patients, such as orthopedic, trauma, spinal cord, bariatric, mobile thoracotomy, or iliofemoral DVT.

Contraindications: No access route to the vena cava, no location available in vena cava for placement of filter

Hospital Flow for IVC Filter Placement

Runs EMR report to see patients receiving IVC Filter

Enters patient into database

Enters appointment date

Enters date when IVC filter removed

IVC Filter placed

Database Specialist

Sends request to scheduling with x 4 x 6 week appointment with NP/MD in IVC Filter Clinic

Scheduling makes appointment with patient

IVC Filter Clinic appointment determines if filter can be removed

Schedules appointment for IVC Filter removal

Runs EMR report on IVC Filter orders

Reviews with MD for appropriateness

Reviews cancelled orders and reordering provider for process improvement

If patient a no show, continue attempt to reschedule

Tracks patients until filter is deemed permanent or removed

Conclusions

The policy and processes implemented will ensure Parkview Health is compliant with the FDA recommendations for IVC Filter insertion and removal and patients will avoid complications with IVC filters being left in longer than appropriate. Parkview Health will also be able to monitor short term and long term outcomes along with procedural indications. The IVC Filter Clinic will also provide a specialized service for this specific set of patients.

References
