

## Inferior Vena Cava Filters - Retrieval Program **Paulo Eduardo Ocke Reis<sup>1,2\*</sup>**

**Received:** March 14, 2018; **Accepted:** March 16, 2018; **Published:** March 30, 2018

### Editorial

Pulmonary embolism (PE) is a major cause of death, anticoagulation is the main treatment in prevention of PE and for acute lower extremity deep vein thrombosis (DVT), an absolute contraindication for pharmacotherapy makes necessary an inferior vena cava filter (IVCF) implantation. For over twenty years permanent IVCF were used, but mainly from the year two thousand the concept of temporary or recoverable filter has emerged [1-3]. Therapeutic or prophylactic IVCF are placed based on currently accepted indications to prevent PE [1-5]. The number of IVCF implanted increased significantly, in the last decades, despite the 2010 US Food and Drug Administration Advisory “that effectiveness of IVCF insertion in reducing venous thromboembolism (VTE)-associated morbidity and mortality is uncertain [6]”. In other hand there is a wide variability in the standards of practice between institutions and different guidelines for the use of filters published by multiple societies [7-12]. IVCF implantations complications are common and include: migration, fracture, recurrent VTE, infection and filter or cava thrombosis; they should be retrieved when duration of treatment has been met, the risk of a PE is no longer high, or there is no longer a contraindication to anticoagulation. An effective system that leads to improving the retrieval rate of filters must include a tracking system to minimize patient lost to follow-up, because all recovery rates are of only 18-30% of the cases, low rates of withdrawal of the implanted optional filters may represent a flawed follow-up and propaedeutic protocols have not been defined yet [8,10,12-14].

Despite all these considerations, a program of filter removal can be proposed (**Table 1 and Figure1**) [15,16]. CIRSE established a registry of retrievable filter use with the primary aim of determining the success of IVC Filter retrieval and associated complications [15]. The criteria in filters indications and accompanying patients after implantation are essential to implement a filter removal program. A multidisciplinary team-based including education,

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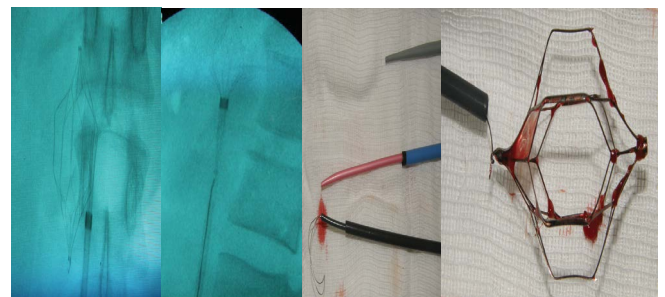
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**Citation:** Reis PEO (2018) Inferior Vena Cava Filters - Retrieval Program. J Vasc Endovasc Therapy. Vol.3 No.1:3



**Figure 1** From left to right: Filter Retrieval, intervention procedure material and embedded filter. Most of the recoverable filters has own capture devices, composed by high profile sheath, snares or 0.014 guidewires made in the time of removal.

outpatient follow-up and initiation of the filter removal program at the time of IVC filter placement significantly improved IVC filter retrieval rates in a rural population [16]. Authors agree that to provide high-quality care in this patient population, these findings support wide implementation of similar protocols [15,16].

**Table 1** IVCF - Retrieval Program.

• Orientation to patient and family explaining: Type of filter implanted, date, indication and Service that performed the implant;
• Term of consent;
• Hematological follow-up;
• Exclusion of patients with life expectancy less than 6 months;
• IFU of the implanted device;
• Noninvasive imaging: assessing migration, fractures, filter angulation, and cavity and filter patency;
• AngioTC or MRI angiography in suspected cases of pit or filter thrombosis;
• Venography for cases of doubt or endovascular treatment of complications;
• They should be removed as early as possible.

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