

Inferior Vena Cava Filters - Retrieval Program **Paulo Eduardo Ocke Reis^{1,2*}**

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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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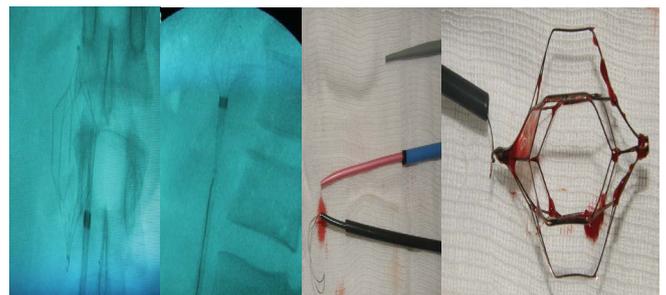


Figure 1 From left to right: Filter Retrieval, intervention procedure material and embedded filter. Most of the recoverable filters has own capture devices, composed by high profile sheath, snares or 0.014 guidewires made in the time of removal.

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.

References

- Mahek Shah, Talal Alnabelsi, Shantanu Patil (2017) IVC filters—Trends in placement and indications, a study of 2 populations. *Medicine* 12: 6449.
- Crowther MA (2007) Inferior vena cava filters in the management of venous thromboembolism. *Am J Med* 120: S13-S17.
- Duszak R, Parker L, Levin DC (2011) Placement and removal of inferior vena cava filters: National trends in the Medicare population. *J Am Coll Radiol* 8: 483-489.
- Spencer FA, Bates SM, Goldberg RJ (2010) A population- based study of inferior vena cava filters in patients with acute venous thromboembolism. *Arch Intern Med* 170: 1456-1462.
- Stein PD, Matta F, Hull RD (2011) Increasing use of vena cava filters for prevention of pulmonary embolism. *Am J Med* 124: 655-661.
- Food and Drug Administration (2010) Removing Retrievable Inferior Vena Cava Filters: FDA Safety Communication.
- Jaff MR, McMurtry MS, Archer SL (2011) Management of massive and submassive pulmonary embolism, iliofemoral deep vein thrombosis, and chronic thromboembolic pulmonary hypertension: A scientific statement from the American Heart Association. *Circulation* 123: 1788-1830.
- Birkmeyer NJ, Finks JF, English WJ (2013) Risks and benefits of prophylactic inferior vena cava filters in patients undergoing bariatric surgery. *J Hosp Med* 8: 173-177.
- Haut ER, Garcia LJ, Shihab HM (2014) The effectiveness of prophylactic inferior vena cava filters in trauma patients: A systematic review and meta-analysis. *JAMA Surg* 149: 194-202.
- Kearon C, Akl EA, Comerota AJ (2012) Antithrombotic therapy for VTE disease: Antithrombotic Therapy and Prevention of Thrombosis, American College of Chest Physicians Evidence-Based Clinical Practice Guidelines. *Chest* 141: e419S-494S.
- Baadh AS, Zikria JF, Rivoli S (2012) Indications for inferior vena cava filter placement: Do physicians comply with guidelines? *J Vasc Interv Radiol* 23: 989-995.
- Caplin DM, Nikolic B, Kalva SP (2011) Quality improvement guidelines for the performance of inferior vena cava filter placement for the prevention of pulmonary embolism. *J Vasc Interv Radiol* 22: 1499-1506.
- Jones RK, Jurkovich GJ, Velmahos GC (2007) Practice Patterns and Outcomes of Retrievable Vena Cava filters in Trauma Patients: An AAST Multicenter Study. *The J Trauma* 62: 17-24.
- Mylankal KJ, Fitigde R (2018) Inferior vena cava filters: Recent Controversies. *J Surg* 88: 128-129.
- MJ Lee, D Valenti, MA Gregorio (2015) The CIRSE Retrievable IVC Filter Registry: Retrieval Success Rates in Practice. *Cardiovas Int Radiol* 38: 1502.
- Winters JP, Morris CS, Holmes CE, Lewis P, Bhave AD, et al. (2017) A multidisciplinary quality improvement program increases the inferior vena cava filter retrieval rate. *Vas Med* 1: 51-56.