

Office-Based Inferior Vena Cava Filter Placement Correlates with High Rates of Retrieval and Follow-Up

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Background: Many hospital-based vascular procedures have transitioned to an office-based setting. Procedures for inferior venacaval (IVC) filters in particular are increasingly performed in the office. Prolonged placement of IVC filters have been correlated with higher complication rates, in previous studies, including deep vein thrombosis (DVT), filter thrombosis, filter fracture, vena caval penetration, and filter migration. Nationally retrieval rates of IVC filters are low, commonly due to loss of follow-up. Our study evaluates the safety, efficacy, and cost of IVC filter retrievals in an office-based setting. Retrieval rate of IVC filters placed in an office setting was also evaluated.

Methods: A retrospective review was performed. Procedures were performed in an office-based angiography suite by vascular surgeons under local anesthesia with or without moderate sedation. Follow-up was performed via office visits and telephone encounters. Data collected included: indications for procedure, date of service, procedure performed, age, follow-up date, complications, cost of the procedure, and if the filter was retrieved. Procedures were performed using fluoroscopy.

Results: Over an 8-year period (2012-2020), 68 filter placement procedures were performed. Mean age of patients is 73.0 yrs. Follow up visit compliance was 95.59% (65/68). 3 patients never followed-up. 37 patients had both placement and removal in the office. Retrieval rate for in-office procedures was 54.41% (37/68). 6 patients were lost to follow-up for removal despite being seen for a follow-up visit. 3 filters were removed in the hospital. 21 filters were kept in as permanent after discussion on follow-up visits. Complications from procedures are as follows; 2 pustules at the access site, 1 small groin hematoma, 1 filter did not disengage from the IVC vessel wall, and 1 filter thrombus precluding/preventing removal. Complication rate was 7.3% (5/68). Mean costs per procedure in office were \$1940.58 for placement and \$1470.58 for removal.

Conclusion: Patients, providers, and insurers can benefit from IVC filter procedures performed in the office-based site-of-service. Often IVC filter patients are lost to follow-up due to the urgency of the placement, particularly in the non-office setting. Retrieval rates in-office were far higher than the national reported rate 13.6% (Ippolito & Rutgers, 2020), and the Florida reported retrieval rate, 6.6% (Mohapatra, Liang, 2018). The mean costs of the procedures were far less than published in-hospital costs (\$14,120.57 for placement and \$14,314.88 for removal). These procedures are cost-effective to perform for the physicians, health systems, and insurers. Patients who have their filters placed in the office have better long-term follow-up.