

Does catheter cavography before IVC filter retrieval lower procedural supply costs?

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Purpose:

For IVC filter retrieval, many interventional radiologists perform catheter venography prior to opening the retrieval sheath and snare. It is unknown whether this extra step reduces the average cost of supplies, compared to performing the initial venogram through the retrieval sheath.

Methods and Materials:

We performed a retrospective review of 181 consecutive patients who presented for planned IVC filter retrieval between January 2012 and March 2015. Findings precluding filter retrieval on initial cavography were recorded. Average cost of supplies was determined from list prices for the Gunther Tulip IVC filter retrieval set (Cook) and the 5 F Soft-Vu pigtail catheter (AngioDynamics), and the probability of deciding not to remove the filter based on the initial cavogram.

Results:

Retrieval was successful in 167 of 181 patients. Planned filter retrieval was aborted based on the amount of thrombus seen on the initial cavogram in 13 patients (7.2%, 95% confidence interval: 3.4 – 10.9%). In 1 patient, filter retrieval was attempted, but was unsuccessful because a leg of the filter was embedded in the IVC wall. Performing filter retrieval using a 5 F pigtail catheter prior to opening a filter retrieval set increases the average cost of supplies by 1.2% (95% confidence interval: –2.5 – 5.0%) compared to using the filter retrieval set only. Based on hospital supply costs only, initial cavography using a 5 F pigtail catheter is expected to increase costs if the probability of aborted filter retrieval is less than 8.4%.

Conclusion:

If the probability of aborted filter retrieval is less than 8.4%, then performing a venogram with a 5 F pigtail catheter prior to opening the filter retrieval set increases the cost of supplies. In our patient population, performing the initial venogram through the filter retrieval sheath eliminates a step, with no statistically significant difference in the cost of supplies.