cessful in 95% of those attempted. An aggressive follow-up protocol can double the retrieval rates previously reported while the risk of fracture/embolization is <1% when filters are aggressively removed at a mean of 246 days.

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PVSS21.
Caval Perforation by Retrievable IVC Filters and Considerations for Open Explantation
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Objectives: Retrievable inferior vena cava (IVC) filters were introduced to provide protection from pulmonary emboli (PE) in patients with short-term PE risk, with the option to be removed once the PE risk subsides. However, many filters are not removed and there are increasing reports describing complications from retrievable filters including IVC perforation, erosion into adjacent structures, migration, and filter fracture. Importantly, the frequency of these complications is likely to increase as greater numbers of IVC filters are being placed and we describe our experience with open filter explantation for IVC perforation.

Methods: We describe 5 cases of open filter explantation for IVC perforation by retrievable IVC filters following unsuccessful endovascular retrieval.

Results: Five patients underwent successful laparotomy and explantation of retrievable IVC filters. Three filters were placed for PE prophylaxis in high-risk patients prior to elective surgical intervention. Two others were placed in patients with PE and contraindications to anticoagulation. All patients had radiographic evidence of cava penetration by the filter. 4 patients had symptoms attributed to erosion into adjacent bowel, including one patient with endoscopic evidence of duodenal penetration. One patient was asymptomatic but had radiographic evidence of aortic penetration by a filter leg. All patients had improvement in symptoms and uncomplicated recoveries following explantation.

Conclusions: This is the largest case series to date describing the open explantation of IVC filters for IVC perforation and erosion into adjacent structures. We advocate early endovascular retrieval of IVC filters as soon as PE risk subsides to avoid long-term complications of retrievable IVC filters. In cases of IVC perforation open removal of IVC filters can be performed safely with minimal risk when endovascular retrieval is unsuccessful.