

The Effects of the COVID-19 Pandemic on IVC Filter Placement

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Background: IVC filters are self-expanding stents that have been used to prevent pulmonary embolisms when anticoagulants are contraindicated. Retrieval of filters is imperative to their success as prolonged dwell time can cause further complications such as filter erosion, displacement, or thrombus. The IVC filter clinic was created in July 2017 to improve patient outcomes, follow-up, and removal of filters.

Objectives: The purpose of this study is to determine differences in indication, removal rate, follow-up rate, dwell time, mortality, and general trends before and during the COVID-19 pandemic.

Methods: The current study is a retrospective chart review of patients who received an IVC filter between July 2017 and June 2022. In determining differences related to the COVID-19 pandemic, March 2020 was used as the start date, and it is ongoing through June 2022.

Results: There was a decrease in 1 year survival (86% vs 63%, $p = .000412$) when patients did not receive a follow-up office visit. There was a decrease in follow-up rate (86% vs 77%, $p = .049762$) after the onset of the COVID-19 pandemic. Patients who had their filter removed were more likely to be alive at 1 year than those who did not get their filter removed (95% vs 72%, $p < .00001$). There was no significant change in indication, removal rate, dwell time, or 1-year mortality after the start of the pandemic.

Conclusions and Potential Impact: Patient survival can be improved if they attend a follow-up visit, and if they have their filter removed. We also identified patients whose filters did not improve their mortality because of other underlying medical conditions whereas other patients were successfully treated. This indicates the need for a more selective process in placing filters. This also confirms previous research that COVID-19 restrictions and fear caused secondary negative effects on patient outcomes.