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Study tracks variation between hospitals in vena cava filter use

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The frequency of vena cava filter (VCF) use to prevent migration of blood clots to the lungs in patients with acute venous thromboembolism (VTE) appears to vary widely and be associated with which hospital provides the patient care, according to a study of California hospitals published Online First by *JAMA Internal Medicine*.

The placement of a VCF may be the only treatment option available if anticoagulation treatment cannot be given. The use of VCFs continues to increase despite uncertainty about the relative benefits vs. the risks of the implantable medical devices, according to the study background.

Richard H. White, M.D., of the University of California, Davis, School of Medicine, Sacramento, and colleagues compared the frequency of VCF use among California hospitals from January 2006 through December 2010 using administrative hospital discharge data.

The study included 263 hospitals where 130,643 acute VTE hospitalizations occurred with the placement of 19,537 VCFs (14.95 percent).

"The major finding of this study was an exceptionally wide range in the frequency of VCF use between hospitals, from 0 percent to 38.96 percent of all acute VTE hospitalizations," the authors comment.

Significant clinical factors associated with VCF use included acute bleeding at the time of admission, a major operation after admission for

VTE, the presence of metastatic cancer and an extreme severity of illness. The hospital characteristics associated with VCF use include having a small number of beds, a rural location and being other private vs. Kaiser hospitals, according to the study results.

"Taken together with the results of another recent study that reported no clear indication for VCF use in approximately 50 percent of patients who received a VCF, the findings suggest that use of VCFs is based substantially on the local hospital culture and practice patterns. The absence of reliable data indicating a clear benefit (or clear harm) associated with VCF use likely contributes to the wide variation in use that we observed," the authors conclude.

In a related viewpoint, Vinay Prasad, M.D., National Institutes of Health, Bethesda, Md., and colleagues write: "Given the known harms and the lack of efficacy data for IVC [inferior vena cava] filters, we need RCTs [randomized controlled trials]. Unfortunately there is little incentive for manufacturers of filters to embark on trials that can only eliminate their products' market share. Therefore, we need either the FDA to require current filter manufacturers to perform efficacy studies of their devices as a condition for remaining on the market or a large federally funded study to determine if this expensive device leads to greater benefit than harm."

"Until then, clinicians and patients face difficult choices. Follow current standard of care and place filters where guidelines advise, or do not place filters, after informed consent informs patients that there is evidence of harm without evidence of benefit," they conclude.

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