Vena cava filters do not lower mortality rate in most embolism cases

A filter used to block clots from passing from the veins in the legs to the arteries of the lung does not improve mortality rates for most patients suffering a pulmonary embolism. However, if a patient is unstable – in shock or requires a ventilator – filters can save lives.
Furthermore, for unstable patients with a pulmonary embolism, it is crucial they receive clot-dissolving medications known as thrombolytic therapy.

The findings come from a set of three research articles on pulmonary embolism treatment published by Michigan State University's Paul Stein in the May edition of the American Journal of Medicine. The findings are based on a study of more than two million patients suffering from the sometimes deadly clots that travel to the lungs and block arteries.

Stein said the studies provide clearer guidance on what treatments are most effective for patients, specifically in regard to vena cava filters and thrombolytic therapy.

"There has been an increase in the use of vena cava filters in the past several years for patients who arrive at a hospital suffering from a pulmonary embolism," said Stein, a professor in osteopathic medical specialties and also director of research at St. Mary Mercy Hospital in Livonia, Mich.

"But it appears the vast majority of filters that are placed in patients with pulmonary embolism may not reduce mortality."

However, he stressed that for the small proportion of patients who arrive at a hospital in an unstable condition, the data suggest mortality can be greatly reduced with a filter.

"These studies provide strong evidence on when filters reduce mortality and when they will not," he said. "Only a small percentage of patients suffering from a pulmonary embolism are in shock or in need of ventilation support, and therefore only a small proportion need a filter."

Stein said for unstable patients it is vital that in addition to using a filter, they receive thrombolytic therapy, which is much less of a risk than the surgical removal of a clot known as an embolectomy.

"Only about a third of unstable patients receive thrombolytic therapy," he said. "The reason may be doctors are afraid that patients will suffer from excessive bleeding. But the data show thrombolytic therapy would save lives if used more frequently."

As for an embolectormy, Stein's team found that in most surgical centers, unless the clinicians are highly specialized and experienced, the mortality rate is high. In most hands, he said, thrombolytic therapy would save more lives.

The findings were from a nationwide government database, the Nationwide Inpatient Sample, and included data on more than two million patients who suffered a pulmonary embolism between 1999 and 2008.

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