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## **Study examines long-term outcomes following blood clots**

Patients who develop a blood clot in their legs (deep vein thrombosis) or lungs (pulmonary embolism) are at risk for experiencing another blood clot within three years, and patients with pulmonary embolism have a higher risk of death, according to a report in the February 25 issue of Archives of Internal Medicine, one of the JAMA/Archives journals.

Deep vein thrombosis and pulmonary embolism are considered different manifestations of the same disease process, according to background information in the article. The medical management of both conditions, known collectively as venous thromboembolism, has improved in the past decade, the authors note.

Frederick A. Spencer, M.D., of McMaster University Medical Center, Hamilton, Ontario, Canada, and colleagues analyzed the medical records of 1,691 Worcester, Mass., residents (54 percent women, average age 65) who were diagnosed with venous thromboembolism in 1999, 2001 or 2003. Of those, 549 had pulmonary embolism and 1,142 had isolated deep vein thrombosis.

Over the three-year study, among the 549 patients who presented with pulmonary embolism, 31 (5.7 percent) had a recurrent clot in the lung, 75 (13.7 percent) had a recurrence of either type of venous thromboembolism and 82 (14.9 percent) experienced a major bleeding episode (i.e., so severe they required a transfusion). Among the 1,142 patients who presented with isolated deep vein thrombosis over the same period, 64 (5.6 percent) developed a pulmonary embolism, 217 (19 percent) had recurrent venous thromboembolism and 146 (12.8 percent) had a major bleeding episode.

Individuals with pulmonary embolism were more likely to die after one month (13 percent vs. 5.4 percent), one year (26 percent vs. 20.3 percent) and three years (35.3 percent vs. 29.6 percent) than those with deep vein thrombosis. Patients whose course was complicated by major bleeding were more likely to experience recurrent venous thromboembolism or to die at three years than those without these complications, the authors write.

Patients who presented with pulmonary embolism had similar rates of subsequent pulmonary embolism or recurrent venous thrombosis compared with patients with isolated deep vein thrombosis, the authors conclude. However, rates of recurrent venous thromboembolism and major bleeding after deep vein thrombosis and pulmonary embolism remain unacceptably high in the community setting. Efforts are needed to identify patients most at risk for venous thrombosis associated complications and to develop better anticoagulation strategies conducive to long-term use in the community setting.

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