Medical Xpress

Minor leg injuries associated with risk of blood clots

January 14 2008

Muscle ruptures, ankle sprains and other common minor leg injuries appear to be associated with a higher risk for blood clots in the legs or lungs, according to a report in the January 14 issue of Archives of Internal Medicine, one of the JAMA/Archives journals.

Previous studies have shown that major injuries increase the risk for venous thrombosis, according to background information in the article. This disorder includes deep vein thrombosis, or blood clots in the leg, and pulmonary embolism, or a blood clot that has traveled to the lungs,. "However, apart from the injury itself, other risk factors for venous thrombosis will be present because of the major injury, such as surgery, a plaster cast, hospitalization and extended bed rest," the authors write. "The risk of so-called minor injuries that do not lead to these additional factors is unknown."

Karlijn J. van Stralen, M.Sc., and colleagues at Leiden University Medical Center, Leiden, the Netherlands, studied 2,471 patients who developed venous thrombosis between 1999 and 2004. The patients completed a questionnaire about any injuries, surgical procedures, plaster casts or immobilizations they had within one year of developing blood clots, as well as their height, weight, family history and sports participation. These patients were compared with 3,534 controls who did not have venous thrombosis, recruited by inviting partners of the patients to participate as well as using a random-digit–dialing method.

A total of 289 patients (11.7 percent) had a minor injury in the three

months prior to developing venous thrombosis, while 154 controls (4.4 percent) had a minor injury in the three months before completing the questionnaire. “Minor injuries that do not require surgery, a plaster cast or extended bed rest were associated with a three-fold greater relative risk of venous thrombosis,” the authors write. “The association appeared local because injuries in the leg were associated strongly with thrombosis, while injuries in other locations were not associated with thrombosis. The association was strongest for injuries that occurred in the month before the venous thrombosis, suggesting a transient effect.” The association was also stronger in individuals with genetic or other risk factors for blood clots.

There are several reasons such injuries may increase the risk of blood clots, the authors note. Even injuries that do not require an individual to be completely immobilized may cause them to be less active, potentially leading to blood clots. In addition, damage to the blood vessel wall from an injury also could increase clotting risk in the affected area.

“Because minor injuries are common, they can be major contributors to the occurrence of venous thrombosis,” the authors conclude. “Many individuals with minor injuries will have contacted the general practitioner first. Therefore, there may be an important task for general practitioners to identify subjects who are at high risk of developing venous thrombosis and subsequently to provide prophylactic measures.”

Source: JAMA and Archives Journals