

## **Air Pollution Increases DVT Risk**

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They note that exposure to particulate air pollution has been associated with increased short- and long-term morbidity and mortality from heart disease and stroke and that hypercoagulability and enhanced thrombosis have been indicated as one mechanistic pathway that mediates such effects, but there is no evidence currently available relating air pollution exposure to DVT.

They therefore examined whether long-term exposure to air pollution was associated with increased thrombotic susceptibility and higher DVT risk in a large case-control study conducted in the Lombardy region in northern Italy.

The cases included 871 patients who were Lombardy region residents and had been diagnosed from January 1995 through September 2005 as having lower-limb DVT with or without symptomatic pulmonary embolism (PE). The controls included 1210 healthy Lombardy region residents who were recruited by asking each of the cases for a list of friends and then selecting individuals using an algorithm that balanced the age distribution of the controls to that of the cases. The exposure to particulate matter of less than 10  $\mu\text{m}$  in aerodynamic diameter (PM10) was estimated in the year before DVT diagnosis (cases) or examination (controls) through monitors located at 53 sites throughout the Lombardy region and was assessed for each subject on the basis of their residential address.

Results showed that higher mean PM10 levels in the year before the examination were associated with shortened prothrombin time in both DVT cases and controls. In addition, exposure to increased concentrations of particulate air pollution in the year before diagnosis was associated with increased DVT risk after researchers controlled for clinical and environmental covariates. Each increase of 10  $\mu\text{g}/\text{m}^3$  in PM10 was associated with a 70% increase in DVT risk. The DVT risk increase associated with air-pollution levels was smaller in women and limited to those who were not using oral contraceptives or hormone therapy at the time of diagnosis.