Study finds injectable treatment for blood clots in advanced cancer patients increases

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The use of an injectable, clot-preventing drug known as Low Molecular Weight Heparin to treat patients with advanced cancer complicated by blood clots increased steadily between 2000 and 2007, according to a new study published in *The Oncologist*, funded by the National Cancer Institute and led by Kaiser Permanente Colorado. However, despite previous research indicating LMWH is the preferred first-line treatment for cancer patients experiencing blood clots, use of LMWH is low compared to another commonly used anticoagulant, warfarin.

The study was conducted by a team of Kaiser Permanente researchers from Colorado, Oregon, Washington and Northern California, Dana-Farber Cancer Institute and Group Health Research Institute.

Venous thromboembolism, or blood clots, are common and serious complications in cancer patients. Anticoagulation drugs work to prevent additional clots from forming, while the body partially or completely dissolves the initial clot.

The study examined data from electronic health records of four health plans participating in the Cancer Research Network, a consortium of integrated health plans that pool data for research. Patients were identified with advanced breast cancer, colorectal, lung and prostate cancer who received treatment between January 2000 and December 2008 at Group Health Cooperative and Kaiser Permanente regions in Colorado, Northern California and Oregon and Washington.

Over the entire study period, 25 percent of patients received LMWH as a primary treatment for blood clots. A majority of patients, 74 percent overall, received warfarin-based therapy.

"Blood clots are a frequent complication in patients with cancer, so it's essential to understand patterns of care and adherence to guideline recommendations for them," said Dr. Tom Delate, PhD, study lead author. "Current medical literature on this topic is limited, so our findings will add tremendously to this knowledge gap and, hopefully, stimulate discussions on the need for comparative effectiveness research evaluations between blood clot anticoagulation therapies."

A randomized controlled trial in July 2003 demonstrated that LMWH was more effective at preventing recurrent clots than warfarin in patients with cancer. In addition, current clinical guidelines from the American College of Chest Physicians, American Society of Clinical Oncology and National Comprehensive Cancer Network recommend LMWH treatment for cancer-related blood clots.

The study did not determine why warfarin continued to be the preferred anti-coagulation therapy for advanced cancer patients. Warfarin does have a long history of use in treatment of blood clots, and high-quality anticoagulation monitoring services are available in the health plans studied, possibly resulting in a high level of physician comfort with warfarin. In addition, because LMWH requires daily injections, patients may prefer taking warfarin since it is available in tablet form.

According to Dr. Delate, Clinical Pharmacy Research Scientist at Kaiser Permanente Colorado, next steps should be to study why use of LMWH is low compared to warfarin and to compare the effectiveness of LMWH compared with warfarin in patients with advanced cancer.

Provided by Kaiser Permanente