Should low molecular weight heparin be used in cancer treatment?

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For decades, the blood thinner heparin has been used to prevent and treat blood clots. Could it be just as effective in treating cancer?

In an editorial published today in the New England Journal of Medicine, researchers from McMaster University and the University at Buffalo suggest conclusive answers to key questions on the benefits of low molecular weight heparin (LMWH) for cancer patients remain elusive - despite promising results from large studies.

Co-authors of the editorial are Dr. Elie Akl, associate professor in the Department of Medicine in UB's School of Medicine and Biomedical Sciences and in McMaster University's Department of Clinical Epidemiology and Biostatistics, and Dr. Holger Schünemann, professor of medicine and chair of the Department of Clinical Epidemiology and Biostatistics, McMaster University.

In their editorial, on a paper in the same issue of the journal, the physicians say the anti-clotting effect of heparin is well established, unlike a speculated anti-tumor effect. Consequently, they question if heparin should be offered to cancer patients who don't have clotting problems.

Having systematically summarized the available evidence of how cancer patients may benefit from heparin in a 2011 Cochrane Review, they now were invited to comment on the SAVE-ONCO study of 3,200 patients with metastatic or locally advanced solid tumors. Patients receiving

chemotherapy were also given a preventive dose of semuloparin (ultra-low-molecular weight heparin) once daily for just over three months.

This study, the largest so far, found semuloparin significantly reduced the incidence of thromboembolism but had no statistically significant effect on major bleeding and death. Taken together with the prior studies and another study they recently identified these findings confirm and further establish the authors' recent review's conclusion of "a likely small survival benefit."

They estimated "if 1,000 patients with cancer were to use a prophylactic dose of LMWH, approximately 30 would avert death, 20 would avert a clotting complication and one would suffer a major bleeding episode over a 12-month period."

Akl and Schünemann said the findings have meaning for both patients and other healthcare decision makers.

"Patients who are not bothered much by daily injections of LMWH can avert hospitalizations for a clotting complication and possibly achieve a prolongation of life if they accept an increased risk of bleeding and its subsequent treatment," they said.

They added that those patients truly looking for survival from their cancer will need to deal with "some uncertainty" about whether their type and stage of cancer are associated with the likely survival benefit of LMWH.

Akl and Schünemann said more clarity is required about which cancer patients would benefit most, the magnitude of this survival benefit, and whether this benefit is appropriate for cancers that respond poorly to other therapies. They are planning a sophisticated analysis of the published trials (individual patient data meta-analysis) to investigate

these questions.

Provided by McMaster University