

# Monitoring and control can limit side effects of promising cancer drugs

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A new class of cancer drugs can be used effectively while minimizing hypertensive side effects if patients' blood pressure is closely monitored and controlled, a clinical panel has determined.

The panel brought oncologists, cardiologists and hypertension experts together to draft new recommendations for physicians prescribing angiogenesis inhibitors for the treatment of [cancer](#). First approved in the mid-2000's, these drugs disrupt tumor growth by preventing the formation of new [blood vessels](#), but also increase blood pressure in most patients.

Treating a patient's hypertension before starting the inhibitors and closely monitoring their blood pressure in the days after treatment begins can help physicians control this side effect, the panel concluded this month in the [Journal of the National Cancer Institute](#). Those precautions may allow patients at higher risk for [cardiovascular disease](#) to benefit from these novel cancer treatments, authors said.

"This paper should impact practice today," said Michael Maitland, MD, PhD, assistant professor of medicine at the University of Chicago Medical Center and lead author on the commentary. "It should make things safer on average for patients, and will give physicians important guidance."

Several different angiogenesis inhibitors have been studied in clinical trials, and all cause an elevation of blood pressure in most patients.

These drugs are also given with increased frequency to patients above 60 years old, a population with a high chance of pre-existing hypertension.

"Often the case is those patients aren't seeking medical attention for hypertension until they find that they have a tumor and need treatment for cancer," Maitland said. "If a patient is hypertensive, a physician should not dismiss that as irrelevant just because they have advanced cancer. We already know that ignoring co-morbidities in a cancer patient can generate as much risk for their long term survival as the stage of the cancer."

The panel recommended that a patient should be thoroughly screened before treatment with angiogenesis inhibitors. A risk assessment should be performed, similar to the cardiovascular assessment given patients before major surgery, Maitland said. Before treatment begins, blood pressure in high-risk patients should be reduced and maintained at less than 140/90 mmHg, or even lower in patients with diabetes or chronic kidney disease.

A variety of antihypertensive drug classes can be used to lower a patient's blood pressure before or during treatment with angiogenesis inhibitors, but physicians should be aware of potential adverse interactions between the two drugs. Oncologists faced with complex cases of blood pressure management should consult colleagues more experienced in cardiology and hypertension, the panel advised.

"The recommendations put all of us on the same page," said George Bakris, MD, director of the Hypertensive Diseases Unit at the Medical Center and another author on the JNCI commentary. "It really is a seminal effort to provide some kind of general guidance and understanding of how these drugs work, what to do about their consequences, and how to successfully manage patients to make sure the outcome is ideal across the board."

Improved monitoring and treatment of hypertension during angiogenesis inhibitor treatment may open up the treatment to patients considered to be at high-risk for the side effect due to a history of cardiovascular disease or predisposition toward high blood pressure.

"We're not trying to keep anybody from getting these drugs, but there should be different levels of intensity and attention to the potential side effects based on what we know about hypertension and cardiovascular disease," Maitland said.

Further research is also underway to determine the mechanism of how angiogenesis inhibitors promote [hypertension](#), studies that could further improve clinical management of the drugs' side effects.

"Those studies are not going to change therapy, but based on what they find, they may be able to perfect therapy and make it better," Bakris said. "This drug class has great potential for altering the natural history of many cancers. With this guidance, all physicians involved in the care of a cancer patient will be aware of monitoring blood pressure and signs of kidney injury and will know what to do if such problems arise."

"If carefully managed, I think these drugs are a huge move forward in our armory against cancer," Bakris said.

The commentary, "Initial assessment, surveillance, and management of blood pressure in patients receiving vascular endothelial growth factor signaling pathway inhibitors," appears in the May 5th issue of the *Journal of the National Cancer Institute*.

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