

Popular cancer drug can cause kidney damage

June 10 2010

The widely used cancer drug bevacizumab may cause severe loss of protein from the kidney into the urine that can lead to significant kidney damage and can compromise the efficacy of cancer treatment, according to a study appearing in an upcoming issue of the *Journal of the American Society Nephrology* (JASN). The results suggest that physicians should monitor patients' kidney health when prescribing this angiogenesis inhibitor.

While research indicates that treatment with the chemotherapy drug bevacizumab can lead to urinary protein leakage (proteinuria) and [kidney damage](#), the overall risk associated with the drug and patient risk factors are unknown. Bevacizumab blocks a protein called vascular endothelial growth factor, thus inhibiting the production of new blood vessels around tumors.

Shenhong Wu MD, PhD (Stony Brook University Cancer Center), Xiaolei Zhu, MD, PhD (Kidney Doctors PLLC), and their colleagues conducted a review of published randomized, controlled clinical trials to assess the overall risk for severe proteinuria in patients taking bevacizumab. The researchers analyzed data from 16 studies comprising 12,268 patients with a variety of tumors.

Severe proteinuria occurred in 2.2% of patients taking bevacizumab. Compared with patients taking chemotherapy alone, patients taking bevacizumab combined with chemotherapy had a 4.79-fold increased risk of developing severe proteinuria and a 7.78-fold increased risk of

developing nephrotic syndrome. (Nephrotic syndrome is a group of symptoms including protein in the urine, low blood protein levels, high cholesterol levels, high triglyceride levels, and swelling.)

Patients taking higher dosages of bevacizumab had the greatest risk of developing proteinuria. Also, when the investigators looked at differences by cancer type, they found that patients with kidney cancer had the highest risk of developing proteinuria (10.2% incidence).

These results indicate that it is particularly important to monitor the effects of [bevacizumab](#) in patients who have kidney cancer or who are receiving high doses of the drug. Future studies should investigate how to reduce bevacizumab's kidney-related effects, and physicians should be prepared to treat these potential side effects.

More information: The article, entitled "Bevacizumab Increases Risk for Severe Proteinuria in Cancer Patients," will appear online on June 10, 2010, [doi:10.1681/ASN.2010020167](https://doi.org/10.1681/ASN.2010020167)

Provided by American Society of Nephrology

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