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Press Release

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POPULAR CANCER DRUG CAN CAUSE KIDNEY DAMAGE

Bevacizumab Increases the Risk of Severe Urinary Protein Loss by More than 4-Fold

Washington, DC (June 4, 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 of 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.

Study co-authors include Christi Kim, MD and Lea Baer, MD (Stony Brook University Cancer Center).

Disclosures: Dr. Wu received honoraria from Onyx Pharmaceuticals, Novartis, and Wyeth, and has been a speaker for Onyx, Pfizer Inc, and Novartis. The other authors reported no financial disclosures.

The article, entitled "Bevacizumab Increases Risk for Severe Proteinuria in Cancer Patients," will appear online at http://jasn.asnjournals.org/ on June 10, 2010, doi 10.1681/ASN.2010020167.

Founded in 1966, the American Society of Nephrology (ASN) is the world's largest professional society devoted to the study of kidney disease. Comprised of 11,000 physicians and scientists, ASN continues to promote expert patient care, to advance medical research, and to educate the renal community. ASN also informs policymakers about issues of importance to kidney doctors and their patients. ASN funds research, and through its world-renowned meetings and first-class publications, disseminates information and educational tools that empower physicians.

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