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POPULAR HEART DRUG MAY BE UNSAFE FOR SOME KIDNEY PATIENTS

Further Research Needed to Determine Safe Levels of Digoxin in Dialysis Patients

Washington, DC (June 21, 2010) — For patients with kidney disease on dialysis, the widely used heart medication digoxin may lead to an increased risk of premature death, according to a study appearing in an upcoming issue of the *Journal of the American Society of Nephrology* (JASN).

The researchers monitored more than 120,000 dialysis patients drawn from over 1,800 clinics across North America for up to four years. "We were surprised to find that digoxin use increased death risk in dialysis patients, especially in patients on higher doses," comments Kevin Chan, MD, MSci, Fresenius Medical Care North America, Waltham, MA.

The risk of death was 28 percent higher for dialysis patients taking digoxin, after adjustment for other factors. The increase in risk was greater for patients with higher levels of digoxin in their blood and in patients who had lower serum potassium levels, which is a well-known factor that contributes to digoxin toxicity.

Over 400,000 Americans currently live with dialysis for end-stage renal disease, which in itself, magnifies the risk for concurrent heart disease. When heart disease is present, it is sometimes treated with digoxin, for the of regulation heart rate in atrial fibrillation or the augmentation of overall pump function in heart failure.

Four percent of dialysis patients in the study were taking digoxin. "Although digoxin has been prescribed by doctors for over 200 years, widespread monitoring studies have not been conducted to examine the penetration, effectiveness, and safety of the drug among patients on dialysis," says Dr. Chan.

The new and national study raises concern that digoxin could in fact be dangerous when used in kidney disease patients on dialysis. However, Dr. Chan emphasizes that since the study was based on clinical surveillance data, the findings cannot be considered conclusive. "Further research is needed to outline how and if digoxin can be safely prescribed in patients on hemodialysis," he says.

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In the meantime, Dr. Chan encourages doctors, patients, and healthcare providers to reconsider the benefits of digoxin when alternative treatments are available for heart disease in patients starting dialysis. He adds, "For patients who remain on digoxin, vigilant monitoring of digoxin and potassium blood levels can minimize the drug's possible side effects."

The authors report no financial disclosures.

Study co-authors were Raymond Hakim, M.D., Ph.D. and Michael Lazarus, M.D. (Fresenius Medical Care North America, Waltham, MA).

The article, entitled "Digoxin Associates with Mortality in ESRD" will appear online at <http://jasn.asnjournals.org/> on June 24, 2010, doi 10.1681/ASN.2009101047.

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