ジゴキシンは心不全患者の入院を減らす（Abstract # 13-LB-15819）

DIG:ジゴキシンは慢性心不全の高齢患者における全入院を減少させる

DIG: Digoxin reduces all cause hospital admissions in older patients with chronic heart failure

ジゴキシンは、左室駆出率の低下した慢性心不全（HFrEF）の外来高齢患者の全入院率を有意に低下させるとの研究結果が第62回American College of Cardiologyで発表され、同時に*American Journal of Medicine*オンライン版に公表され、2013年8月号の印刷版に掲載予定である。研究者らはDIG（Digitalis Investigation Group）トライアルのHFrEF患者6,800人の1995年以降の予後をレビューした。目的は30日以内の全ての原因による入院に対するジゴキシンの効果を調査することであった。患者は21～94歳であり、半数は65歳以上であった。ジゴキシンは30日以内の全ての原因による入院を34%減少させた。ジゴキシンによる治療は追跡開始後30日以内の総死亡を増加させなかった。他の強心薬とは異なり、ジゴキシンは死亡率を増加させないようであり、低用量では神経ホルモンを遮断することが明らかにされた。HFrEFの死亡率や入院を減少させる薬剤の多くもまた神経ホルモンを遮断するため、この結果は重要であると専門家らは述べている。これらの結果から、ジゴキシンは退院後間もない急性心不全の高齢患者の再入院を減少させるのにも役立つ可能性があると研究者らは確信している。

Full Text

Digoxin significantly reduces the likelihood of hospital admission due to all causes among ambulatory older patients with chronic heart failure and reduced ejection fraction (HFrEF), according to research presented at the American College of Cardiology's 62nd Annual Scientific Session.

Researchers reviewed patient outcomes from 1995 in the Digitalis Investigation Group (DIG) trial of 6,800 patients with HFrEF. Patients with HFrEF are at high risk for hospitalization and rehospitalization. The objective of the current study was to examine the effect of digoxin on 30-day all-cause hospital admission among these patients, aged 21 to 94 years, half of whom were age 65 or older and would be Medicare eligible.

Data show digoxin was associated with a 34 percent reduction in 30-day all-cause hospital admission. Digoxin is part of a group of drugs called positive inotropes that act to strengthen the heart muscle's contractions, thereby making the heart pump better. Unlike other positive inotropic drugs, digoxin does not seem to increase mortality and has been found to block neurohormones in low doses. Experts say this is important as most drugs that reduce mortality and hospitalization in HFrEF also block neurohormones. This study found that treatment with digoxin did not increase all-cause mortality during the first 30 days of follow-up.

"We have an approved drug, which is inexpensive, generally well-tolerated and known to reduce the long-term risk of hospitalization due to heart failure, that has now been demonstrated to reduce hospital admissions due to all causes within the first 30 days of use," said Ali Ahmed, M.D., M.P.H., professor of medicine and epidemiology in the UAB Divisions of Geriatrics and Cardiology and Birmingham VA Medical Center, and the study's lead investigator.

While this study assessed rates of hospital admission in older ambulatory chronic heart failure patients, the researchers believe that these findings suggest that digoxin may also help reduce readmission of older, acute heart failure patients recently discharged from a hospital.

"Because the effect of digoxin was more pronounced in high-risk sicker subgroups, such as those with New York Heart Association class III or IV symptoms or an enlarged heart, the kind of patients who were at a higher risk of hospital admission, and because of digoxin's favorable influence on heart pump and blood flow, it may be expected that digoxin would also be effective in patients who were recently hospitalized for acute heart failure as they have very high risk for re-admission," Dr. Ahmed said.

This could be significant as earlier studies have found an estimated 27 percent of Medicare beneficiaries with heart failure return to the hospital within 30 days of discharge. All told, nearly one out of three of these readmissions is related to heart failure rather than other reasons.

In addition to improving care and outcomes, the use of digoxin may also help hospitals avoid financial penalties for higher than usual rates of readmission. According to the Centers for Medicare and Medicaid Services, unplanned hospital readmissions alone cost the Medicare program an estimated $17 billion annually. In an effort to reduce Medicare costs under the Patient Protection and Affordable Care Act, Medicare now penalizes hospitals for higher-than-expected 30-day all-cause readmissions for patients with heart failure, heart attack and pneumonia, regardless of whether readmission is related to the condition causing the initial hospitalization.

"Hospitalizations account for about a quarter of the nearly $550 billion annual Medicare spending," said Dr. Ahmed. "Re-hospitalization costs about a sixth of that spending. We all knew that hospital readmission was a big problem for the U.S. health care system, but we only started paying serious attention to it after the new health care reform law made provision for financial penalties."

He adds that each time someone with heart failure goes to the hospital it also raises their risk of dying or having other poor outcomes. Because the present study draws on data from about 20 years ago—before the era of beta blockers and aldosterone antagonists—researchers say further research is needed to reevaluate digoxin among contemporary heart failure patients and to assess its use before hospital discharge in the acute heart failure setting.

"If we can replicate these results in hospitalized patients with acute heart failure and find that digoxin also reduces 30-day all-cause readmission as it did 30-day all-cause admission, then it provides a very simple, low-cost tool to reduce this burden for the patients and for our health care system," Dr. Ahmed said.

He estimates that one-third of heart failure patients receive digoxin today compared to two-thirds before the DIG trial was conducted, which he says is in part based on the fact that other heart failure medications such as beta blockers and aldosterone antagonists were subsequently shown to reduce both mortality and hospitalizations, and thus given greater priority. The Food and Drug Administration approved oral digoxin for the treatment of mild to moderate heart failure in 1997 following the DIG trial.

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