

Kidney problems may prevent heart attack patients from receiving life-saving care

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Heart attack patients with kidney problems may not be getting the full treatment they need, according to a new study led by King's College London. The study found that patients admitted to hospital with chest pains and poorly functioning kidneys are less likely to be given an angiogram and early invasive treatment, which might increase their chance of surviving a heart attack.

People admitted to hospital with a suspected heart attack are normally offered early angiography or X-ray of their heart – a procedure recommended in UK, European and US healthcare guidelines regardless of [kidney function](#). Without angiograms, doctors cannot perform an angioplasty to widen the arteries or coronary artery bypass grafting.

The King's-led study examined data from the Myocardial Ischaemia National Audit Project (MINAP) on [patients](#) admitted to English or Welsh hospitals between 2008 and 2010 with a suspected partial heart attack. Of the 35,000 people admitted to hospital, 44% had impaired [kidney](#) function.

The study, published in the journal *PLOS ONE*, found that patients with poorly functioning kidneys were much less likely to undergo angiography than those with normal kidney function. The worse a patient's degree of kidney impairment on admission, the less likely they were to have an angiogram and the more likely they were to be dead within a year.

Patients with kidney disease have traditionally been excluded from trials that study the impact of early treatments post-heart attack, and so there is not yet sufficient evidence to determine whether they would benefit from early treatment in the same way that patients with normal kidney function do. However, in the *PLOS ONE* study, of the patients with moderate kidney dysfunction who were given an angiogram, half then underwent revascularisation or artery repair with a similar survival rate to patients with normal kidney function.

Dr Claire Sharpe, Clinical Senior Lecturer in Renal Sciences at King's College London, says: "We know that early, invasive treatment reduces the death rate within the first year following a heart attack. However, we don't have enough evidence to say whether this applies equally to patients with kidney problems. More studies are needed to determine how best to manage patients with kidney disease following a heart attack.

"Nevertheless, our study found that a considerable number of [heart attack](#) patients are not being cared for according to recommended guidelines. Doctors may be worried about the risk of bleeding complications or injury to the kidney if these patients undergo angiography, but recent studies suggest these risks may be overstated. Kidney transplant patients who have angiography do not show any accelerated decline in their renal function, and clinicians can ensure their patients are adequately hydrated to reduce the risk of injury to their kidneys."

Provided by King's College London

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