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**CARDIAC SURGERY--
ASSOCIATED NEUTROPHIL
GELATINASE-ASSOCIATED
LIPOCALIN SCORE FOR
POSTOPERATIVE ACUTE
KIDNEY INJURY: WHAT
IS THE CLINICAL**

IMPLICATION?

To the Editor:

Cardiac surgery-associated (CSA) acute kidney injury (AKI) affects roughly 40% of patients, yet as many as 6.5% require postoperative renal replacement therapy, with mortalities ranging from 30% to 80%.¹ The best time to apply interventions or new therapeutic modalities aimed at reducing CSA-AKI is at a very early stage; however, serum creatinine-based AKI is unfortunately not recognized at the time of the noxious event. We read with great interest the recent proposition to detect early acute tubular damage by applying the CSA neutrophil gelatinase-associated lipocalin (NGAL) score.² In that article, de Geus and colleagues² suggested a classification of acute tubular damage and postoperative therapy adjustments according to the extent of released NGAL.² We believe that the proposed endeavors represent a major step forward in reasoning as well as in detecting early subclinical AKI; however, McIlroy and associates³ recently found that the determination of AKI by NGAL alone might not provide earlier detection than determination of subsequent clinical AKI on the basis of discrete *delta* creatinine values.³ On the other hand, NGAL combined with creatinine exhibited superior clinical performance to any marker alone.³ Further, cystatin C provides additional information, with the potential to distinguish a higher-risk subgroup of patients, and it could even identify patients at risk of AKI in the presence of normal levels of creatinine.⁴ In our view, combining NGAL with conventional

creatinine, cystatin C, or even both is a “must do,” especially for patients with preexisting impaired kidney function, in whom the values of creatinine and NGAL are less representative.⁵ Such paired biomarker composites might enhance an earlier identification of acute tubular damage, providing the opportunity to institute highly targeted renal-protective strategies.

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**IS ROUTINE USE OF
RENAL INJURY
BIOMARKERS IN
CARDIAC SURGERY
PATIENTS PUTTING THE
CART BEFORE THE
HORSE?**

Reply to the Editor:

The search for a means to identify a reversible phase in new renal dysfunction after cardiac surgery is an important one because significant perioperative renal injury is associated with high rates of morbidity and mortality.¹ Recent information on cardiac surgery-associated acute kidney injury (CSA-AKI) has suggested that a further 15% to 20% of patients who do not fulfill current serum creatinine urine-based criteria for acute kidney injury

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