DIAGNOSIS

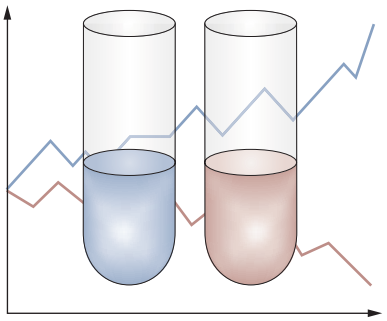
Urinary IgM predicts cardiovascular events and renal disease in diabetes

Increased urinary excretion of IgM can predict development of end-stage renal disease (ESRD) and mortality associated with cardiovascular events in patients with type 1 diabetes mellitus, according to a new study. "IgM-uria is actually more specific than albuminuria for the prediction of ESRD or death from cardiovascular events such as heart attack and stroke", explains Omran Bakoush of the study group.

Previous studies by the researchers from Lund University, Sweden, demonstrated that urinary levels of IgM were strongly associated with renal failure and mortality in patients with chronic glomerular disease. These findings led to the initiation of the current prospective study to investigate whether urinary IgM levels could predict renal failure and mortality. 139 patients with type 1 diabetes mellitus who regularly attended the researchers' clinic were recruited between 1984 and 2003 and were followed to October 2007 or until death.

Patients with high urinary IgM excretion were significantly more likely to develop ESRD than those with low levels of urinary IgM (23.5% versus 5.6%). In addition, patients with high urinary IgM excretion were more likely to die from a cardiovascular event than those with low levels of urinary IgM (36.8% versus 9.9%). Furthermore, the association between urine IgM excretion with ESRD and cardiovascular mortality was largely independent of albuminuria levels.

The researchers say that IgM can only be seen in the urine if structural glomerular damage is present; by contrast, the presence of albuminuria does not necessarily reflect severe glomerular



damage. Bakoush and colleagues propose that increased urinary excretion of IgM is a reflection of severe atherosclerosis and, therefore, is a marker for renal failure and cardiovascular mortality. The researchers now plan further studies to identify the group of patients at highest risk of renal disease progression.

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Original article Tofik, R. *et al.* Increased urine IgM excretion predicts cardiovascular events in patients with type 1 diabetes nephropathy. *BMC Med.* **7**, 39 (2009).