



Significance of albumin:creatinine ratio in people with and without diabetes

Dear Editor,

I have just read "Testing for CVD, diabetes and renal disease in elderly people" (Best Tests March 2012). I have a question re. renal testing for proteinuria - the article (on page 7) says that in people with diabetes ACR >2.5 mg/mmol is significant BUT for non-diabetics ≥ 30 mg/mol is significant.

The reasons for the random variation of non-diabetics up to 30 mg WITHOUT significance must also surely apply to diabetics? The corollary is that we ought to seek other reasons for a sudden increase in a diabetic proteinuria, in a patient whose diabetes has not worsened, i.e. all the reasons it might vary in a non-diabetic.

Dr Michael Short

General Practitioner, Palmerston North

Thank you for your question. We acknowledge there may have been a lack of clarity within the section to which you refer.

The section states:

- In people with diabetes, ACR > 2.5 mg/mmol in males and > 3.5 mg/mmol in females indicates microalbuminuria
- In people without diabetes, ACR ≥ 30 mg/mmol indicates clinically significant proteinuria

Proteinuria is a sign of abnormal excretion of protein by the kidney but is a non-specific term including any or all proteins excreted. In contrast, albuminuria specifically refers to an abnormal excretion rate of albumin. Microalbuminuria refers to an abnormally increased excretion rate of albumin in the urine. It is a marker of endothelial dysfunction and increased risk for cardiovascular morbidity and mortality, especially, but not exclusively, in high-risk populations such as people with diabetes and hypertension.

Microalbuminuria is an established risk factor for renal disease progression in type 1 diabetes and its presence is the earliest clinical sign of diabetic nephropathy. In addition, a number of studies suggest that microalbuminuria is an important risk factor for cardiovascular disease and defines a group at high risk for early cardiovascular mortality in both type 2 diabetes and essential hypertension.

Microalbuminuria also signifies abnormal vascular permeability and the presence of atherosclerosis. Among non-diabetic people with essential hypertension, microalbuminuria is associated with higher blood pressures, increased serum total cholesterol and reduced serum high-density lipoprotein cholesterol. Thus, taken together these data support the concept that the presence of microalbuminuria is the kidney's notice to the clinician and patient that there is a problem with the vasculature.

With that said, current thinking and evidence suggests that people with diabetes with a microalbuminuria level indicated by an ACR greater than 2.5 mg/mmol in males and 3.5 mg/mmol in females, have a significantly increased risk, and so individuals with these parameters should be commenced on an ACE inhibitor or an ARB.

In people without diabetes, minor degrees of albuminuria (ACR female 3.5 – 30 mg/mmol or male 2.5 – 30 mg/mmol) are not considered sensitive enough to predict renal disease, particularly given the wide day to day variability of levels and their non-specificity.

CORRESPONDENCE

Addressing barriers to HPV vaccination

Dear Editor,

As a female GP I do a lot of gynae and STD work and try to promote HPV vaccination. I've noticed two themes from mums regarding getting their daughters vaccinated - a lot of mum's don't really get it that cervical cancer is a sexually transmitted disease and when I ask them "how much do you trust all the men out there?", their view on vaccination tends to change! I have also had daughters/mums of a strong Christian persuasion saying "I don't need it because I'm saving myself for marriage" - to which I reply by asking if they can absolutely guarantee that their future husband will be a virgin and that they will never divorce or be with anyone else ever. Even the most devout mother can usually see the point!

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