LETTERS TO THE EDITOR

MICROALBUMINURIA AND MORTALITY IN TYPE 2 DIABETES

To the Editor:

In the November issue of the *Journal*, a study reviewed in the POEMs section concluded that the presence of microalbuminuria is a strong predictor for cardiovascular morbidity and mortality, as well as all-cause mortality in patients with type 2 diabetes.[1] The reviewer, Dr Barry, concluded that screening for microalbuminuria is unjustified, as there is no evidence to demonstrate that the treatment of microalbuminuria reduces mortality or improves quailty of life in patients with type 2 diabetes.

While this may be true when referring solely to cardiovascular morbidity and mortality, Dr Barry neglects to consider the high mortality rates in patients with renal failure, as well as the high costs and decreased quality of life associated with the treatment of end-stage renal disease (ESRD). Additionally, patients with microalbuminuria warrant more frequent and careful screening for evidence of neuropathy, retinopathy, cardiovascular disease, and dyslipidemia.[2]

The American Diabetes Association 1997 clinical practice recommendations note that diabetes has become the most common single cause of ESRD in the United States and Europe. In the United States, one third of all cases of ESRD were attributable to diabetic nephropathy and accounted for treatment costs in excess of $2 billion in 1991. While a higher percentage of type 1 diabetic patients with nephropathy progress to ESRD, type 2 diabetic patients with ESRD account for more than half of diabetic patients currently starting on dialysis. The ADA recommends yearly screening for microalbuminuria in diabetic patients when urinalysis is negative for protein.[3]

Screening for microalbuminuria is supported by strong evidence. Managing patients with microalbuminuria by improving glycemic control, controlling blood pressure, and treating with ACE inhibitors will slow the rate of progression of nephropathy in patients with type 1 and type 2 diabetes.[4-6]

Other organizations including the World Health Organization, National Kidney Foundation, and National Institutes of Health agree that yearly screening for microalbuminuria is recomended for patients with type 1 and type 2 diabetes to detect early nephropathy and to prevent progression to ESRD.[7-10]

In light of this evidence, physicians should screen for microalbuminuria annually in patients with type 1 and type 2 diabetes in order to offer timely treatment to prevent the complications, increased costs, decreased quality of life, and increased mortality associated with ESRD.

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Dr Strayer's letter was referred to Dr Barry, who replies as follows:

I thank Dr Strayer for the opportunity to expound further upon a number of important issues. He disagrees with my conclusion that screening for microalbuminuria in patients with type 2 diabetes is unwarranted. Perhaps I should have

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expanded my statement: There is insufficient evidence that screening and treating microalbuminuria in type 2 diabetes affects clinical outcomes. This issue is quite similar to the controversy around screening for prostate cancer. Each is common and we have tests available to detect early disease. The controversy comes from interpreting whether therapy is beneficial.

Dr Strayer states that the evidence in favor of routine screening is strong. In support of his opinion, he cites the works of Lewis,[1] Ravid,[2] and the Diabetes Control and Complications Trial (DCCT).[3] A careful look at these works reveals that Lewis and the DCCT studied patients with type 1 diabetes, *not* type 2 diabetes. Ravid followed patients with type 2 diabetes randomized to receive enalapril or placebo for 5 to 7 years. The primary outcomes, however, were blood pressure response, serum creatinine, and albumin excretion rate (AER). Ravid did not study clinically important outcomes such as quality of life, mortality, progression to dialysis, or transplantation.

Microalbuminuria in diabetes has been the subject of numerous papers.* Most, however, address patients with type 1 diabetes. The few studies in patients with type 2 diabetes all use intermediate outcomes (AER, blood pressure change, progression to proteinuria, glomerular filtration rate, serum creatinine, and so forth). While some studies have shown that improved glycemic control reduces progression, others have not. Many studies of interventions in diabetes lack comparison groups or randomization, and most have brief periods of follow-up (1 year or less), with only a few providing longer follow-up. I therefore disagree with Dr Strayer's pronouncement that the evidence in favor of screening is strong.

So, what do we make of the recommendations of other groups? The recommendations of the American Diabetes Association,[4] the National Institutes of Health,[5] the World Health Organization,[6] and the National Kidney Foundation,[7] are consensus-based. They extrapolate the findings of the DCCT to patients with type 2 diabetes.[3] First, type 1 and type 2 diabetes are different diseases, and I for one am not prepared to accept blindly that managing type 1 diabetes carries over to managing type 2 diabetes. The former is characterized by lack of insulin, while the latter is associated with a hyperinsulinemic state. Second, consensus groups may incorporate certain levels of evidence in their pronouncements, however, many are based on speculation or reflect constituencies and perspectives different from those of family physicians or our patients. The trash cans of many offices and hospitals are full of consensus panel recommendations that fail to live up to their promises of improved patient outcomes. Why? Mainly because they do not use real world evidence, they are not feasible, or overlapping guidelines are inconsistent or are in total conflict. The best guidelines are those that include a careful and rigorous evaluation of the literature, are developed by members representing multiple perspectives, and provide a rating of the quality of the evidence supporting individual recommendations. The development group should also state their perspectives and underlying values.

Before recommending that we should screen all patients with type 2 diabetes for microalbuminuria, we should have good evidence that intervening makes a difference.

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*For a list of the studies referred to in this paragraph, contact Henry C. Barry, MD, Department of Family Practice, Michigan State University, East Lansing, MI 48824-1315, or visit the Journal website at www.jfp.denver.co.us.

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