



## Return of the ‘pisse-mongers,’ this time with data

Great effort has been spent on identifying easily measured biomarkers to predict the progression of coronary disease and chronic kidney disease (CKD). Interestingly, these two disease processes seem to share some biomarkers and perhaps some pathogenic mechanisms. An ultimate hope is that some of these markers will be found to also contribute directly to organ dysfunction and be amenable to therapy. Blood pressure and (in many people’s minds) low-density lipoprotein cholesterol fulfill this hope. The jury remains out on C-reactive protein and serum urate. There are others.

In this issue of the *Journal* (page 41), Stephen et al review the data indicating that albuminuria helps predict the progression of CKD, coronary disease, ventricular remodeling, and, in some studies, all-cause mortality. Proteinuria has generally been assumed to be a marker of renal injury, but, the authors point out, albumin can under some circumstances initiate inflammatory mechanisms and stimulate mediators of fibrosis.

Although not mentioned by Stephen et al, albumin (like hemoglobin) is susceptible to nonenzymatic glycosylation in patients with diabetes. There is a hint in the literature that glycosylated albumin may be preferentially excreted. Its effects on various tissues are incompletely studied, but it strikes me that perhaps this molecule plays a unique pathogenic role in diabetic renal and vascular disease, even more than native albumin. Further evaluation of this specific marker may lead to even stronger associations (although in a select population of patients with poorly controlled diabetes).

The focus on urine as a fluid with diagnostic and predictive characteristics is certainly not new. Both Hippocrates and Galen recognized the value of inspecting urine. Uroscopy (now urinalysis) may be the oldest surviving laboratory test. Recently, my friend Joe Nally, a coauthor with Stephen et al, shared with me a paper detailing the romantic yet checkered history of urinalysis.<sup>1</sup>

Gilles de Corbeil in the 12th century wrote a poem on judging urine, intending it as an aid for remembering the supposed 20 different diagnostic colors of urine and describing in detail the use of the urine flask, a bladder-shaped container for studying the

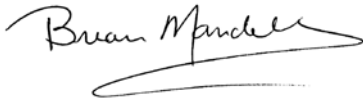


**FIGURE 1.** Urinalysis on horseback. From the Physician’s Tale in the Ellesmere manuscript of Geoffrey Chaucer’s *Canterbury Tales*, c. 1400.

partitioning of the urine colors and substance as representative of the diseased parts of the body. A urine flask was even illustrated in a version of Chaucer's *Canterbury Tales* as a recognized accoutrement of the stylish physician (FIGURE 1). The "art" of uroscopy grew so successful over the centuries as a component of rampant medical charlatanry (casting no aspersions, of course, on current nephrologists) that the Royal College of Physicians in 1601 felt pressed to attack the "pisse-mongers" by stating, "It is ridiculous and foolish to divine the...course of disease...from the inspection of urine."<sup>1</sup> This dictate was apparently ignored then, but seemingly is too frequently followed by clinicians today, contributing to the oft-delayed diagnosis of glomerulonephritis and other renal diseases.

In 1637, Thomas Brian published *The Pisse-Prophet or Certaine Pisse Pot Lectures*, in which he railed against the witchcraft of uroscopy, which he said should only be performed by university-trained physicians. Jump forward to 1827, when Richard Bright elegantly described acute glomerulonephritis, although not the microscopic findings that would be illustrated in accurate detail by Golding Bird in his 1844 treatise, *Urinary Deposits*. Sitting on the bookshelf behind my desk is a copy of Richard W. Lippman's *Urine and Urinary Sediment: A Practical Manual and Atlas* (1957). I have no urine flask—rheumatologists know their limitations.

As we enter 2014, all of us at the *Journal* offer you our sincere wishes for a personally healthy and universally peaceful new year.



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1. Haber MH. Pisse prophecy: a brief history of urinalysis. *Clin Lab Med* 1988; 8:415–430.