

## Low glomerular filtration rate in the Indian population is apparently physiological

Studies in 'healthy' Indians have found a lower range of normal glomerular filtration rates (GFRs) than in Western populations, but it is not clear if this difference is a reflection of subclinical kidney disease or is simply physiological. To investigate this issue, Barai *et al.* measured GFRs in a strictly defined cohort of healthy Indian adults.

This study included Indian men and women aged 18 years or older who were potential voluntary kidney donors for relatives or spouses with end-stage renal disease, and who had normal blood pressure and BMI, and normal kidney function (as defined by serum creatinine [ $<124 \mu\text{mol/l}$ ;  $<1.4 \text{ mg/dl}$ ], urine protein:creatinine ratio, kidney size, and split renal function on radionuclide renogram). Plasma clearance of technetium-99m-labeled diethyltriaminepentaacetic acid (DTPA) was used as an indicator of baseline GFR and, after intravenous infusion of 10% mixed amino acids, stimulated GFR.

The range of baseline GFR values in this cohort was lower than the normal GFR range reported for Western populations (80.0–84.8 ml/min/1.73 m<sup>2</sup> vs 120–130 ml/min/1.73 m<sup>2</sup>); however, mean kidney size (when interpreted according to body surface area) and protein-induced hyperfiltration were equivalent to values derived from studies of whites.

The authors conclude that the low GFR in the Indian population compared with Western populations seems to be physiological (perhaps as the result of a vegetarian diet) and suggest that the National Kidney Foundation GFR threshold to define chronic kidney disease ( $<60 \text{ ml/min/1.73 m}^2$ ) might not be applicable in Indian populations.

**Original article** Barai S *et al.* (2008) Levels of GFR and protein-induced hyperfiltration in kidney donors: a single-center experience in India. *Am J Kidney Dis* 51: 407–414

## Low or high birth weight is associated with CKD only in men

An association between low birth weight and increased risk of chronic kidney disease (CKD) in adulthood has been suggested by several studies. To investigate this association in a more geographically and ethnically diverse population

than those previously studied, Li *et al.* analyzed adults who were screened for CKD during the period August 2000 to December 2005 as part of the US National Kidney Foundation's Kidney Early Evaluation Program.

In all, 12,364 participants (28.7% African American, 76.4% female, mean age 49.1 years, mean self-reported birth weight 3,195 g) with a history of diabetes or hypertension, or a family history of diabetes, hypertension or kidney disease, were divided into sex-specific quintiles according to birth weight. A significant association between birth weight and CKD (defined as an estimated glomerular filtration rate  $<60 \text{ ml/min/1.73 m}^2$ , or a urinary albumin:creatinine ratio  $\geq 30 \text{ mg/g}$ ) was seen in white men ( $P=0.0012$ ), but not in women of any race. Men who had either a low birth weight ( $<2,500 \text{ g}$ ; 11.1%) or a high birth weight ( $\geq 4,500 \text{ g}$ ; 11.9%) were at a higher risk of developing CKD than were those who had a normal birth weight (3,000–3,999 g; 49.4%; adjusted odds ratios 1.65, 95% CI 1.24–2.20 and 1.41, 95% CI 1.06–1.88, respectively).

The authors hypothesize that the influence of gender on the association between birth weight and CKD might be explained by a renoprotective effect of estrogen.

**Original article** Li S *et al.* (2008) Low birth weight is associated with chronic kidney disease only in men. *Kidney Int* 73: 637–642

## The risk of acute macular degeneration is increased in patients with CKD

Age-related macular degeneration (AMD) is responsible for most cases of blindness in the US. Chronic kidney disease (CKD) and AMD are thought to have common genetic and environmental risk factors and often exist as comorbid conditions in the elderly, but the precise relationship between CKD and AMD is unclear. Liew *et al.* conducted a prospective study to investigate whether individuals with CKD are at increased risk of developing AMD, independent of the risk factors shared by these conditions.

The study population comprised 1,183 participants (aged 54–94 years) in the Australian Blue Mountains Eye Study. Glomerular filtration rate (and thus CKD stage) was estimated with the Cockcroft–Gault equation. The 5-year incidence