RISK FACTORS

Prehypertension and obesity are associated with increased risk of treated ESRD and CKD death in a European cohort

Results from a large study performed in Norway by John Munkhaugen and colleagues indicate that increased blood pressure and BMI are associated with an increased risk of incident dialysis and chronic kidney disease (CKD)-associated mortality. This evidence in a European cohort confirms and expands on data from population-based studies in the US, Japan and China that identified prehypertension and being overweight (evaluated separately) as risk factors for the onset of end-stage renal disease (ESRD).

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Munkhaugen *et al.* retrospectively analyzed data from HUNT I, a study performed between 1984 and 1986. This study included almost 75,000 community-dwelling participants (over 97% of them white) aged 20 years or older from the Nord-Trøndelag county in Norway, representing 88.2% of the qualifying inhabitants. Linking the HUNT I data with nationally recorded health-care data, the researchers found that, over a median follow-up of 21 years, 157 participants initiated renal replacement therapy and 669 died of CKD-related causes. Multi-adjusted risk of CKD-related death or treated ESRD increased steadily with baseline blood pressure, with no minimum threshold, whereas the risk associated with BMI increased progressively only in individuals with BMI >25 kg/m^2. The researchers also found that participants with prehypertension were at increased risk of CKD-related death or treated ESRD only if their BMI was >30 kg/m^2.

Munkhaugen *et al.* suggest that individuals who are obese and have prehypertension should be considered for lower blood pressure targets than their counterparts who are not obese, although randomized controlled trials should first evaluate the benefits of such an approach in these patients.

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Original article Munkhaugen, J. *et al.* Prehypertension, obesity, and risk of kidney disease: 20-year follow-up of the HUNT I study in Norway. *Am. J. Kidney Dis.* **54**, 638–646 (2009)