Transfusion and ESA Use in Medicare Beneficiaries with Chronic Kidney Disease (CKD)

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Anemia is a common and important consequence of CKD. Few studies have examined patterns of transfusion and ESA use in the CKD population during the transition period to ESRD or to death. We sought to describe transfusion and ESA use in the 12 months prior to these outcomes, as well as in those who survived.

We identified 36,640 elderly Medicare pts with CKD diagnosed in 2002 who remained continuously enrolled in Medicare Parts A/B and free of ESRD to the end of 2003. We followed these pts from Jan 1, 2004 to the earliest of ESRD diagnosis, death, payer change, or the end of 2005. We then categorized pts into 3 groups: those who progressed to ESRD (1,463), those who died (1,757), and those who survived free of ESRD (26,418). Monthly ESA use and transfusion rates were estimated for each of the last 12 months of observation in each group.

Among those who progressed to ESRD, 39.2% received an ESA in the preceding 12 months. The proportion was much smaller in those who died (12.1%) and those who survived (7.6%). ESA use increased steadily from 17.3% to 28.2% over the 12 months for those who progressed to ESRD, but little or no increase occurred in those who died (5.4%-6.4%) and those who survived (3.6%-4.4%). Of those who progressed to ESRD, 17.3% received a transfusion. The proportion was a bit higher in those who died (21.7%) and much lower in those who survived (6.6%). The transfusion rates (per 1,000 pt-month) were similar for the 6 to 12 months prior to death or ESRD, ranging from 21-29 and 14-21, respectively, and showed a sharp increase in the 5 months prior to death (35-72), but only in the 3 months prior to ESRD (20-46). Those who survived showed little or no increase (7-11).

Death was more common than progression to ESRD in CKD pts. Throughout the 12 months preceding death/ESRD, the transfusion rate was substantially higher than among CKD pts surviving free of ESRD. In contrast, ESA use among the pts who died showed a low, stable pattern very similar to those who survived, while pts who progressed to ESRD had a higher and increasing pattern of use.

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The Association of Metabolic Syndrome and Chronic Kidney Disease in Thai Army Population

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Metabolic syndrome (MS) is a common risk factor for cardiovascular disease. MS have been shown to be increased risk of chronic kidney disease (CKD). However, a large study from Thai population is scarce.

Objective: To demonstrate the association between MS and CKD in the Thai army population.

Method: A cross-sectional study was conducted in Thai army population aged 35-60 years in Bangkok and perieter. MS was defined by National Cholesterol Education Program Adult Treatment Panel III modified criteria (mod MET-NCEP). CKD was defined as a glomerular filtration rate below 60 ml/min/1.73 m2.

Results: A total of 22,120 subjects were examined, but only 20,001 subjects were recruited in the study. There were 90.0% males, mean age of 41.29±6.39 years, body mass index (BMI) of 24.08±2.64 kg/m2, with a circumference of 83.70±8.91 cm, systolic blood pressure of 131.05±17.06 mmHg, and diastolic blood pressure of 82.56±11.58 mmHg. Mean of fasting plasma glucose, triglyceride, HDL-cholesterol and serum creatinine were 102.03±31.73 mg/dl, 159.48±131.16 mg/dl, 56.14±17.07 mg/dl and 1.03±0.28 mg/dl, respectively. The prevalence of MS was 18.0% and 7.0% had CKD as a co-morbid disease. MS was associated with increased risk for developing CKD (odds ratio [OR] 1.21; 95% CI 1.04 to 1.41). The components of MS associated CKD were hypertension (OR 1.33; 95%CI 1.18 to 1.51) and hyperglycemia (OR 1.15; 95%CI 1.02 to 1.30).

Conclusion: These findings indicate that MS defined by mod MET-NCEP is associated with CKD in Thai population. The important components of MS which seems to be risk factor of CKD are hypertension and hyperglycemia.

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The Renal Function Evaluation in Epileptic Children under Long Term High Dose Valproate Treatment

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Valproate is a safe, broad spectrum, effective anti-epileptic medicine. Either valproic acid or valproate is obligatory hepatic (>95%) excretion thus kidney is pharmacologically spared from aberrant effects. However, renal complications such as Fanconi syndrome, tubular interstitial nephritis and hypoanotifysm were reported. The mechanism of nephrotoxicity is not yet clear but one abnormality observed in victims of prolonged high dose usage thereby highly suggested that an overwhemed dosage exhausts hepatic disposal capacity