Sleep Disordered Breathing with Excessive Daytime Sleepiness is a Risk Factor for Mortality in Older Adults
Gooneratne et al., Sleep, 2012

I Background
- Approximately 25-35% of older adults complain of excessive daytime sleepiness.
- Sleep apnea, a possible cause of daytime sleepiness, affects 5-15% of older adults
- Despite evidence to show increased risk of adverse cardiovascular outcomes, no research to date has shown increased mortality from sleep apnea in older adults.

II Hypothesis of the study: Sleep disordered breathing, in the presence of symptoms such as excessive daytime sleepiness, is associated with an increased risk of mortality

III Methods review
- Population chosen: Adults >65 years of age with cases having complaints of excessive daytime sleepiness (n=146) and controls having no excessive daytime sleepiness (n=143). Patients who did not clearly meet either criteria were excluded.
- Intervention: none. Longitudinal study
- Outcome chosen: Mortality as determined from the Social Security Death Index
- Statistics: Survival analysis using Cox proportional hazards models to control for possible covariates

IV Results
- Average follow-up was 13.8 years.
- Excessive daytime sleepiness was associated with an unadjusted mortality hazard ratio of 1.5 (95% CI 1.1-2.0).
- The adjusted mortality hazard ratio for study participants with both EDS and SDB (apnea-hypopnea index ≥ 20 events/h) was 2.3, 95% CI: 1.5-3.6
- The mortality risk was most prominent when sleep disordered breathing was defined as an apnea-hypopnea index >20 events/hr.
- Other relevant covariates were sleep duration > 8.5 h, self-reported angina, male gender, African American race, and age
- Sleep disordered breathing without excessive daytime sleepiness, and excessive daytime sleepiness without sleep disordered breathing, were not associated with an increased mortality risk

V Authors’ conclusions: Sleep disordered breathing, in the absence of excessive daytime sleepiness, may not increase the risk of mortality in older adults.

VI Reviewer’s Critique
- Potential element of survivorship bias that could lead to under-estimation of the hazard ratio
- Study risk factors (sleep disordered breathing, excessive daytime sleepiness) were not re-assessed during the study period.

VII Summary for practice implications
- Only patients with significant symptoms, such as excessive daytime sleepiness, or persistent insomnia, may benefit from sleep apnea evaluation and treatment