The researchers found that the ratio of the CV event rates to the CV death rate varied with disease severity, with CV death representing a larger fraction of major CV events when the risk of CV mortality was higher (Table 1). When the rate of CV death was 2.5 per 1000 patient-years, the rate of major CV events was 3.86, but when the rate of CV death rose to 7.5 per 1000 patient-years, the rate of major CV events decreased to 2.69. Furthermore, when the CV death rate was 12.5 per 1000 patient-years, the rate of major CV events declined to 2.28.

Table 1. Ratios of Various Types of Events to CV Mortality According to Level of CV Risk

	Outcome/CV Mortality Rate Ratio With 95% CIs		
CV mortality rate per 1000 person-years	2.5	7.5	12.5
Total mortality			
≤65 years	2.17 (2.13 to 2.20)	1.91 (1.89 to 1.94)	1.81 (1.78 to 1.84)
>65 years	3.07 (3.00 to 3.13)	2.24 (2.21 to 2.26)	1.93 (1.91 to 1.95)
Major CV events	3.86 (3.80 to 3.93)	2.69 (2.67 to 2.72)	2.28 (2.25 to 2.31)
Extended CV events			
Active as reference	8.39 (8.17 to 8.62)	5.56 (5.45 to 5.68)	4.59 (4.48 to 4.71)
Placebo as reference	15.78 (5.53 to 6.05)	3.83 (3.70 to 3.97)	3.16 (3.05 to 3.28)

CV=cardiovascular.

Determining Inter-Arm Blood Pressure Is Important in New Patients with Diabetes

Written by Muriel Cunningham

Christopher E. Clark, PhD, University of Exeter Medical School, Devon, United Kingdom, presented results from a study of inter-arm differences (IAD) in systolic blood pressure (BP) in patients with diabetes. Simultaneous measurements, often impractical in a clinical setting, were obtained and compared with calculated sequential pairs. Associations between IAD and vascular disease and mortality were also explored.

Once they had provided informed consent, patients with diabetes and nondiabetic control patients underwent 4 pairs of bilateral simultaneous automated BP measurements. After 2 simultaneous measurements were conducted in a random order, cuffs were switched to the opposite arms and another pair of measurements was obtained. For the simultaneous measurements, IADs were calculated for each pair by subtracting the left BP from the right BP. Sequential pairs were modeled by subtracting the second or fourth left BP from the first right BP, for best and worst case sequential pairs. Demographic information was collected from each participant. Patient records were flagged in the National Health Service Information Centre to acquire mortality data from death certificates.

A total of 727 patients with diabetes and 285 controls were enrolled. Of these, 514 (71%) of the patients with diabetes and 238 (84%) of the controls had 4 pairs of BP results ($p<0.001$). Prof. Clark attributed the smaller number of diabetes patients with complete results to the larger number of patients with atrial fibrillation in the diabetes group.

The control group was younger and two-thirds were hypertensive versus 90% of the patients with diabetes. In the diabetes population, 8.6% had a systolic IAD ≥10 mm Hg compared with 2.9% of the controls. Prof. Clark stated that he and his colleagues could not attribute the reason for this difference in systolic IAD entirely to diabetes. Both the simultaneous and sequential single pair measurements were significant ($p<0.001$ for both) in a receiver operating characteristics curve, indicating that a sequential single pair is a useful way to determine IAD in place of simultaneous measurements.

A systolic IAD ≥10 mm Hg was associated with peripheral artery disease (OR, 3.1; 95% CI, 1.2 to 8.0; $p=0.03$) and retinopathy (OR, 1.8; 95% CI, 1.0 to 3.4; $p=0.056$). A systolic IAD ≥15 mm Hg was associated with retinopathy (OR, 6.5; 95% CI, 1.7 to 24.4; $p=0.003$) and chronic kidney disease (OR, 5.4; 95% CI, 1.4 to 21.1; $p=0.033$). Additionally, preliminary survival data showed a significant difference in cardiovascular mortality in patients with systolic IAD ≥10 mm Hg (HR, 4.6; 95% CI, 1.2 to 17.6; $p=0.028$) and systolic IAD ≥15 mm Hg (HR, 10.9; 95% CI, 2.3 to 51.3; $p=0.003$).

Prof. Clark emphasized that "there [were] relatively few [adverse] events included in this [study and that they] intend to return to this in the future when a significant number of events have been collected." He advised clinicians to measure BP in both arms when initially evaluating patients with diabetes as systolic IADs are associated with vascular disease and possibly related to increased cardiovascular mortality.

Success With Self-monitoring: Results From the TASMIN-SR Trial

Written by Muriel Cunningham

The Telemonitoring and Self-Management in the Control of Hypertension trial [TASMINH2], a large study of patients with hypertension, found that those randomized to self-management had significantly lower blood pressure (BP) than controls [McManus RJ et al. *Lancet* 2010]. Subgroup analyses from TASMINH2 suggested a smaller treatment effect in higher risk patients. The purpose of the subsequent Targets and Self-Management for the Control