CB1-06:

Benefits of Early Versus Later Hypertension Treatment and Control on Cardiovascular Outcomes in Those with Diabetes: Clinical and Research Implications

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Background/Aims: The benefits of early hypertension (HT) control in patients with diabetes (DM) may vary by degree of BP control achieved in the year after HT onset. **Methods:** Retrospective cohort study, of 13,480 DM who met study criteria for new onset HT based on blood pressure (BP) measurements, ICD-9 HT diagnose, and pharmacy data. Multivariate logistic and proportional hazard regression models were used to model the impact of BP control in first year and baseline comorbidity on subsequent occurrence of stroke or acute myocardial infarction, with adjustment for demographic factors, comorbidities, and diabetes severity. **Results:** During a mean of 37 months of follow-up time the rate of major CV events in those whose mean BP in the 12 months after HT onset was < 130/80 mm Hg, 130-139/80-89 mm Hg, and > 140/90 mm Hg was 4.9, 5.1, and 7.8 major CV events per 1000 person years respectively. CV events rates did not differ significantly for those above or below 130/80 mm Hg, but were significantly lower in those <140/90 mm Hg compared to those who >= 140/90 mm Hg at the end of the first year after HT onset (p=.0002). In multivariate models, BP control was a significant predictor of stroke, but not of myocardial infarction. **Discussion:** Prompt control of HT within one year of onset significantly reduced likelihood of subsequent stroke. Benefits of BP control were not significantly modified by baseline comorbidities or severity of diabetes.

Keywords: Hypertension; Diabetes; Cardiovascular Disease

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Chronic Illness and Multimorbidity

PS1-31:

Processes of Cardiovascular Care Relevant to Complex Patients

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Background/Aims: Clinicians commonly face decisions about prevention of coronary heart disease following a new diagnosis of cancer. Such decisions must take into account cancer prognosis, cardiovascular risk status, overall burden of morbidity, and the patient's goals, preferences and values. In cases of favorable cancer prognosis and elevated CHD risk, continued or intensified treatment of risk factors is warranted. In cases of poor cancer prognosis and/or high morbidity burden, a less intensive approach may be appropriate. **Methods:** Study design: Historical cohort analysis. Population: 10,313 persons with a cancer diagnosis between January, 2001 and December, 2008 and a range of SEER 5-year survival categories. We assessed LDL cholesterol (LDL) control, blood pressure control, and hemoglobin A1c control each as a function of morbidity burden (using Charlson score), cancer 5-year survival, and the interaction between them in specific at-risk sub-populations. We used linear mixed models with random intercept for each patient and splines at cancer diagnosis and 6- and 12- months post cancer diagnosis to model each outcome occurring less than 2 years prior and 5 years post cancer diagnosis. **Results:** Better LDL goal attainment was associated with higher morbidity in sub-populations characterized by need for cholesterol treatment. For persons with a diagnosis of hypertension, better blood pressure control was associated with lower morbidity burden. Neither LDL nor blood pressure goal attainment was associated with cancer stage at diagnosis. Both blood pressure and LDL control improved in the 6 months after cancer diagnosis. In persons with diabetes, attainment of hemoglobin A1c goal was not associated with either morbidity burden or cancer stage. **Discussion:** In these sub-cohorts characterized by indications for cardiovascular risk factor control, control of risk factors was a function of morbidity, but not cancer stage. This raises the possibility that guideline-driven care of cardiovascular risk factors is neither intensified in the face of good cancer prognoses nor decreased in the face of poor cancer prognoses. These findings should be further explored with attention to detailed patient and clinician factors in order to make appropriate recommendations for patient-centered care delivery in complex patient populations.

Keywords: Multimorbidity; Cardiovascular Guidelines; Chronic Illness and Multimorbidity

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CC3-02:

Risk Factors for Short-term Virologic Outcomes Among HIV-infected Patients Undergoing Regimen Switch of Combination Antiretroviral Therapy

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Background/Aims: A refined understanding of risk factors for unfavorable virologic responses among HIV-infected patients who recently switched antiretroviral regimens is needed. We investigated the effects of HIV disease factors, antiretroviral use history and patient-level factors on virologic outcomes after an antiretroviral regimen switch. **Methods:** We identified HIV-infected patients who changed antiretroviral regimens between 2001-2008 at Kaiser Permanente Southern and Northern California. Baseline was the date of a switch to a new antiretroviral therapy regimen, defined as adding =2 new medications. HIV virological response, measured after 6 months on the new regimen, was classified as: (1) achieving maximal viral suppression (HIV RNA<75 copies/mL), (2) low level viremia (LLV; HIV RNA between 75-5000/mL), or (3) advanced virologic failure (>5000 copies/mL). Potential risk factors examined included: (1) HIV disease factors, e.g., prior AIDS, CD4 cell count; (2) history of antiretroviral use, e.g., duration of use, number of regimen prior to switch, therapy classes of the new regimen [e.g., protease inhibitor (PI)-based, nucleotide reverse transcriptase inhibitor (NRTI)-based], medication adherence, and virologic failure of previous regimens and (3) patient-level factors including demographics, comorbidities and healthcare utilization. Adjusted odds ratios (aOR) for unfavorable virological outcomes, i.e., LLV and advanced virologic failure, were obtained from multivariable nominal logistic regression models with terms for potential risk factors associated with these outcomes (P<0.10) in the crude analysis. **Results:** There were 3447 patients who underwent antiretroviral regimen switch during 2001-2008. At 6 months after baseline, 2608 (76%) achieved maximal viral suppression, 420 (12%) had LLV and 419 (12%) developed advanced virologic failure. Factors associated with increased odds of LLV and advanced virologic failure included: number of regimen prior to switch [aOR=1.37 (1.17-1.62) and 1.8 (1.5-2.1), respectively], NRTI-based regimen (vs. PI-based) [aOR=2.77 (1.27-6.02) and 5.1 (2.4-10.9), respectively] and virologic failure at previous regimens [aOR=3.16 (2.18-4.58) and 4.7 (2.8-7.8), respectively]. On the other hand, older age, higher CD4 cell count, and higher medication adherence were associated with reduced odds of unfavorable virologic outcomes. **Discussion:** History of virologic failure, immunodeficiency and antiretroviral regimen-level factors were significantly associated with virologic failure after a recent therapy switch and should be considered when making treatment change decisions.

Keywords: HIV; Antiretroviral Therapy; Chronis Illness and Multimorbidity

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CC3-03:

Drug Characteristics Associated with Medication Adherence Across Eight Disease States

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Background/Aims: Adherence to prescribed medications is a widespread problem and determinants of medication non-adherence have been previously described as health system, social/economic, therapy-related, condition-related, and patient-related factors. Medication non-adherence clearly represents a multifaceted challenge among patients and health care providers.