volume in symptomatic patients, it represents only a portion of total atherosclerotic plaque burden, particularly for those with a low CACS.

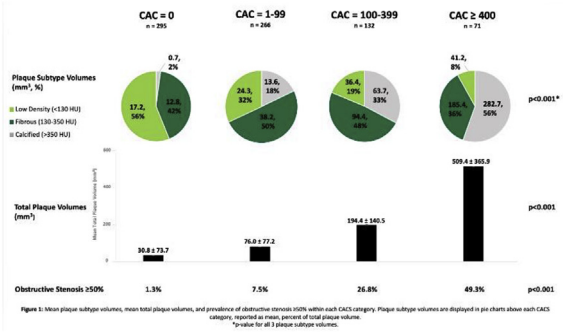

Figure 1: Mean plaque subtype volumes, mean total plaque volumes, and prevalence of obstructive stenosis ≥50% within each CACS category. Plaque subtype volumes are displayed in pie charts above each CACS category, reported as mean, percent of total plaque volume.
*p-value for all 3 plaque subtype volumes.

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SCREENING PATIENTS AT RISK OF AGE-RELATED FRAGILITY VERTEBRAL FRACTURE IN THE GENERAL POPULATION USING MULTIPLE-ROW DETECTOR QUANTITATIVE COMPUTED TOMOGRAPHY WITH CHEST OR HEART SCAN

S. Mao [2], D. Li [1], Y. Gao [2], F. Flores [2], T. Bever [2], A. Yoon [2], H. Hosseini [2], R. Yang [2], S. Vargas [2], Y. Kaur [2], S. Hamal [2], M. Budoff [2]. [1] *Emory university, Atlanta GA, CA, United States;* [2] *Lundquist, Torrance, CA, United States*

Introduction: The vertebral spine is the most common site for fragility fracture, which accounts for about one - fourth of all site fractures and two fold higher than hip fractures. Unfortunately, significant underestimation of vertebral fracture still is an important challenge for bone health management. Therefore, timely assessment of bone mineral density and vertebral fracture is strongly associated to bone health care in the clinical setting. This study investigated the prevalence of VF in general population using high- resolution CT chest or heart scan.
Methods: A total of 3409 patients (1730 women) who underwent both CT chest or heart scans in same study time were observed retrospectively. The presence of vertebral fractures (VF) were estimated by identifying morphological deformities of the spinal bodies using the semi-quantitative method by Genant HK, et al. Initial visual inspection of spinal deformities at T1-T12 levels was done from the MPR, scout and 3-dimensional images. In cases of suspected VF, the spinal body diameters of the anterior and posterior border were measured. The ratio between the anterior, mid and the posterior height, or a given body diameter to the superior spinal height was calculated. Morphological deformity was definite when the ratio was $\geq$ 20% when assessed by two physicians.
Results: The prevalence (%) of VF was 4.7, 7.0, 18.9, 28.6 and 28.0% in male, 2.7, 4.0,7.9, 14.9, 25.6 and 26.3% in female, with on aged range in 20-40, 40-50, 50-60, 60-70 and >80 years respectively.
Conclusions: Following the aging, the prevalence of VF was progressively increased and accelerated from the fifth decade. Cardiac or chest CT scan with the scout images can be used to estimate VF effectively without additional cost and radiation.

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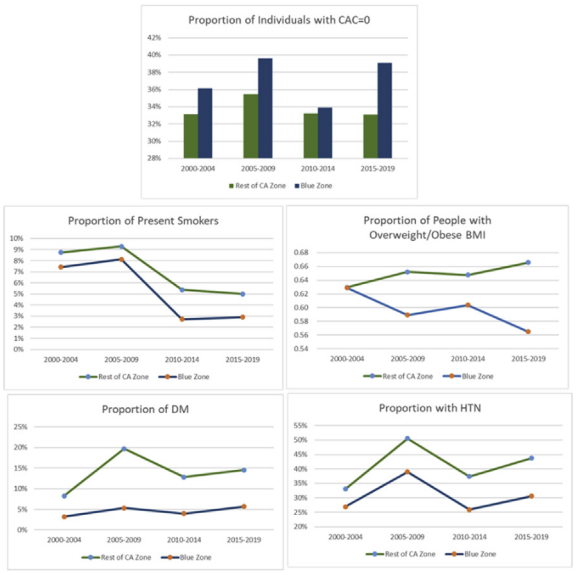
20-YEAR TRENDS OF CORONARY CALCIUM SCORES AND CARDIOVASCULAR RISK FACTORS IN BEACH CITIES/ CERTIFIED BLUE ZONES OF CALIFORNIA: IMPACT OF BLUE ZONES PROJECT?

S. Lakshmanan [2], A. Kinninger [2], S. Dahal [2], I. Golub [2], A. Onuegbu [2], D. Birudaraju [2], L. Cherukuri [2], A. Cai [2], S. Roy [2], M. Budoff [1]. [1] *Los Angeles Biomedical Research Institute, Torrance, CA, United States;* [2] *Lundquist Instiute of Biomedical Innovation, Torrance, CA, United States*

Introduction: Blue Zones Project (BZP) adopts Power9 principles of well-being from places around the world where people consistently live over 100 years old. BZP was introduced in Beach Cities of CA in 2012, through implementation of policy and environmental changes including smoking ban, mindfulness community groups, bike/walk policies, curated grocery stores - with the goal "to make the healthy choice the easy choice for millions of Americans" and subsequently, increase life expectancy. Coronary Calcium (CAC) scores of zero can serve as surrogate markers of longevity. Impact of BZP on cardiovascular health is unknown.
Methods: We compared prevalence Coronary Calcium scores and cardiovascular risk factors between participants, greater than 50 years of age, who underwent Cardiac CT in Beach Cities and Rest of California, in 5-year interval trends from 2000-2020
Results: A total of 3,864 participants from Beach Cities were matched by zip codes and compared with 35,537 participants from rest of California. The prevalence of CAC=0 was significantly higher in Blue zones compared to the rest of California across all time intervals ($p < 0.001$) The prevalence of cardiac risk factors including obesity, smoking, diabetes and hypertension are significantly lower in Blue Zones. ($p < 0.001$) Over time, the proportion of participants with multiple cardiac risk factors decreased and those with zero CAC increased in Blue zones compared to rest of CA. ($p < 0.001$)
Conclusions: This study shows for the first time that the prevalence of CAC=0, a surrogate marker of excellent cardiovascular health is higher and increasing with time, in certified Blue Zones compared to the rest of CA. The burden of cardiovascular risk factors have trended down in Beach cities, since the implementation of BZP. Effect of policy and environmental changes on cardiovascular health and longevity needs to be evaluated.



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THORACIC QCT FROM HEART SCAN CAN MONITOR AGE-RELATED BONE LOSS SENSITIVELY: A COMPARING WITH DXA AND QCT STUDY

S. Mao [2], D. Li [1], Y. Gao [2], F. Flores [2], H. Hosseini [2], H. Bakhsheshi [2], J. Chung [2], N. Yusin [2], S. Chehrzadeh [2], G. Fu [2], K. Kim [2], M. Budoff [2]. [1] *emory university, Atlanta, GA, United States;* [2] *Lundquist, Torrance, CA, United States*

Introduction: Sensitive detection of bone mineral density (BMD) change in following aging or need for medication is an important issue for bone health care. In this comparison with DXA and lumbar QCT studies, we aimed to estimate the ability to predict the age-related bone loss using the thoracic QCT from the electrocardiographically gated heart scans.
Methods: A total of 457 asymptomatic patients (197 female), who underwent BMD-aimed lumbar CT scan, hip and lumbar DXA scan, and heart CT scan referred the investigation of coronary calcified plaque burden, were employed. The BMD of the thoracolumbar spine with QCT and lumbar and neck of hip with DXA was measured. All BMD values were normalized using a formula: individual BMD ÷ the gender-specific