

inflammation (NFkB activation), and oxidative stress (NRF2 activation) in cultured human endothelial cells (EC) exposed to the subject's serum. Vascular aging was characterized by low serum insulin growth factor ([IGF1a] <85mg/dL) and laterality in cerebral oxygenation (Lat-FLOX), an in-vivo marker of altered cerebral blood flow (near-infrared spectroscopy). Z4000Hz were higher in cells treated with serum from survivors (520-1100 ohms) than controls (400-450 ohms). Higher Z4000Hz was associated with higher amounts of EC oxidative stress (rNRF2= -.55), inflammation (rNFkB= .43), apoptosis (rcapsase=-.76), and Lat-FLOX (r=.39). Higher Z4000Hz (r= -.48) and Lat-FLOX (r= -.66) were associated with lower cognitive function, as measured by the Montreal Cognitive Assessment (MOCA). At lower Z4000Hz, combined Lat-FLOX and low IGF1a characterized persons with cognitive impairment (MOCA < 26). These findings suggest that proinflammatory factors related to cancer and/or its treatment persist for months following active treatment. Cognitive symptoms occur when EC damage results in alterations in cerebral blood flow. With depletion of growth factors, like IGF-1, these symptoms may occur at lower levels of EC damage.

IMPACT OF AGING POPULATIONS ON MUNICIPAL EMERGENCY MEDICAL SERVICES

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The services that residents require from their local governments vary depending on the demographics of their populations. While municipalities have long sought to consider how changes in the young population may impact their school system needs, few systematic considerations have been developed relating to how aging populations may impact municipal service provision. This study aims to address this issue by focusing on demands on emergency services at the municipal level. Using data from the Massachusetts Ambulance Trip Record Information System (MATRIS) we explore the association between emergency medical services (EMS) demand and population age-structure. The data shows an overrepresentation of older people among EMS users. People age 65 and older represent 16% of Massachusetts' population but account for 31% of the transported emergent calls—e.g., 911 calls—and 60% of the scheduled transports. Results from the OLS regression analysis suggest that communities with larger shares of older residents have significantly higher numbers of EMS calls. The type of community and other age-related community features such as the percentage of older residents living alone and the percentage of older population dually eligible for Medicare and Medicaid are also significantly associated with the number of EMS calls. Contrary to our expectations, other resources available in the community such nursing homes or assisted living facilities were not significantly associated with number of EMS calls. Our research indicates that if growth in the older population occurs as projected, the demand placed on the EMS system by older populations will grow considerably in coming decades.

AGE-ASSOCIATED INCREASE IN KYNURENINE INHIBITS AUTOPHAGY AND PROMOTES

SENESCENCE IN BONE MARROW STEM CELLS

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Aging is characterized by progressive decline of tissue functionality and age-related accumulation of cellular and molecular damage leading to multiple pathological conditions including osteoporosis and increased fracture rates. Bone marrow mesenchymal stem cells (BMSCs) play an essential role in bone development and regeneration with their ability to undergo differentiation into osteogenic, chondrogenic, myogenic, and adipogenic cell lines. Proliferation rate of MSC is declined with ages leading to misbalance between bone resorption and osteogenesis. A recently identified age-related change in bone and bone marrow is an accumulation of tryptophan metabolite, kynurenine (KYN), catalyzed by indoleamine-2,3-dioxygenase (IDO) or free-radical oxidation. We previously reported that KYN suppresses autophagy in BMSC. We now investigated the effect of KYN on BMSC cellular function. In vitro treatment of murine BMSC isolated from 18 month old mice with kynurenine disrupted autophagy suppressing autophagic flux. KYN treatment also induces senescence in BMSC marked by increase in SA-beta-galactosidase activity as well as, increased expression of senescence marker p21. Inhibition of Aryl Hydrocarbon Receptor (AhR) by AhR inhibitors significantly reduced β -galactosidase activity increase and blocked p21 expression elevation suggesting that KYN induces senescence in BMSC through the AhR pathway. Interestingly, KYN treatment failed to up-regulate beta-gal activity in BMSC isolated from 6 month-old mice suggesting that KYN induction of senescence maybe potentiated with aging. Together those data support the idea that KYN shifts the homeostatic balance of BMSC during prolonged stress or in aging through downregulating survival autophagic pathway in favor of driving BMSCs to senescence.

DOES THE NEWS MEDIA FOSTER A HOSTILE ENVIRONMENT FOR OLDER ADULTS: A CONTENT ANALYSIS OF NEWS ARTICLES

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The media has become increasingly more agenda-driven and politically biased in recent years. This research explores whether the major news outlets fosters an environment of negative sentiment towards the older adult population over a 4-year-period from 2016-2019. The paper uses a content analysis approach. 199 news articles that include keywords such as "older adults", "seniors" or "elderly" are randomly selected among those published in the first week of March in 2016, 2017, 2018 and 2019 from the online archives. Main attitudes towards the older adults are extracted and categorized. In the 4-year span, regression analysis shows that negative attitudes are apolitical and are found in almost