

CONTROL ID: 217326

CONTACT (NAME ONLY): Muhammad Ali

Abstract Details

PRESENTATION TYPE: poster

CATEGORY: Biology of Aging (also see: cell biology, genetics, organ specific diseases)

SUB-CATEGORY: None

KEYWORDS: HRV, Gender differences in HRV.

Abstract

TITLE: GENDER DIFFERENCES IN LONGEVITY(L)& AUTONOMIC FUNCTION (AF)

AUTHORS (ALL): Waheed, Alia¹; Ali, Muhammad A.¹; Jurivich, Donald A.¹; Colombo, Joe ¹; Singer, Donald H.².

INSTITUTIONS (ALL): 1. Geriatric Medicine, University of Illinois, Chicago, IL, USA.
2. Cardiology, UIC, Chicago, IL, USA.

ABSTRACT BODY: Female(F)longevity is not yet understood. Aging is associated with progressive decline in heart rate variability(HRV),an index of AF& mortality risk. By the 60s,HRV may reach low levels associated with high risk. Subsequently, the decline slows & may reverse, implying that L relates to preservation of AF. Gender differences in L could reflect M-F differences in AF preservation.

To test this, we compared HRV(SDNN index,rMSSD,pNN50),from 24hr Holter monitoring of 329 healthy young/middle aged(10-59yr)M(165)&F(164),& 223 elderly(60-99yr)M (112)& F(111),without overt disease. Relationships between age, gender & HRV were assessed using Pearson's Correlation Coefficient(SPSS 11.0).

HRV of young M exceeds that of age-matched F. Aging results in an initial decline in HRV of M&F. The rate of decline is greater in M v F($p < 0.01$): (SDNNindex: -0.61 v -0.65); (rMSSD: -0.49 v -0.34)&(pNN50: -0.50 v -0.35)with resultant narrowing of gender differences(6th decade).The decline slows further, stops & then reverses(8th decade)(M&F).Subsequently, HRV determined using the parasympathetic modulated measures(P)(rMMSD,pNN50) increases in elderly F>M. In contrast, HRV determined using the "mixed" sympathetic/parasympathetic(S/P) modulated measure (SDNN index) is>in elderly M, findings consistent with relative enhancement of P & S activity in elderly F/M, respectively. Age related changes in HRV are qualitatively similar for M/F. The patterns diverge commencing in late 50s.HRV determined using "mixed" S/P indices increases more in M. The P modulated measures increase more in F. Given associations between S activity & mortality risk, the greater increase in P activity of F could underlie greater L.

Financial Disclosure (List all funders who provided support for this research) : None

(No Table Selected)

