Circulating blood serum MOTS-c levels higher in older females versus older males with no correlation to healthy HbA1c.

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BACKGROUND
- Mitochondria have strong implications in aging and age-related diseases.¹
- Recently, a mitochondrial derived peptide named MOTS-c, was discovered to positively impact regulation of blood glucose in obese and insulin resistant mice.²
- MOTS-c levels are linked to regulation of obesity and diabetes related insulin resistance.
- Current data are lacking on the natural course of MOTS-c expression in aging humans.²

INTRODUCTION
- Aging is associated with insulin resistance and mitochondrial dysfunction.

METHODS
- 41 Healthy Human Subjects
- Subjects refrained from: Caffeine, alcohol, and food for 24, 8, and 4 hours, respectively prior to testing.
- Venous blood was collected for serum MOTS-c concentrations and HbA1c measurement.

RESULTS
- Figure 2. Serum MOTS-c concentrations (ng/mL) in Younger (n=26), Older (n=15), Male (n=19), Female (n=22), Young Males, (n=12), Young Females, (n=14), Older Males (n=7), and Older Females (n=8). *significantly different compared to older males (p=0.03)
- Figure 3. HbA1c levels (%) in Younger (n=26), Older (n=15), Male (n=19), Female (n=22), Young Females, (n=14), Older Males (n=7), and Older Females (n=8)

CONCLUSION
- No statistic significance was found between serum MOTS-c and Young and Older subjects, Males and Females, or Young Males and Young Females.
- Serum MOTS-c concentrations were higher in Older Females compared to Older Males. (p=0.03)
- No statistic significance was found between healthy HbA1c levels and subjects in all noted categories.
- These results suggests a relationship does exist between aging, sex, and MOTS-c, particularly in the older stages of life.

FUTURE WORK
1. Adult human subjects with pre-diabetic and diabetic HbA1c % ranges and its effects on MOTS-c serum.
2. Ethnic/demographic variability on HbA1c and MOTS-c concentrations.
3. Implications between the differences in metabolic aging on each sex should also be considered.

REFERENCES

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