ABC Study on Heart Disease Foundation Ets

Impact of visceral fat and physical activity on autonomic function in Cardiac Outpatients

Mahmoud HT., Merotto D., Dario ML., Mahmoud MM., Dal Bo A., Visentin P., Mastrosimone S., Pieropan F., Russo A., Berton G.

INTRODUCTION & AIM

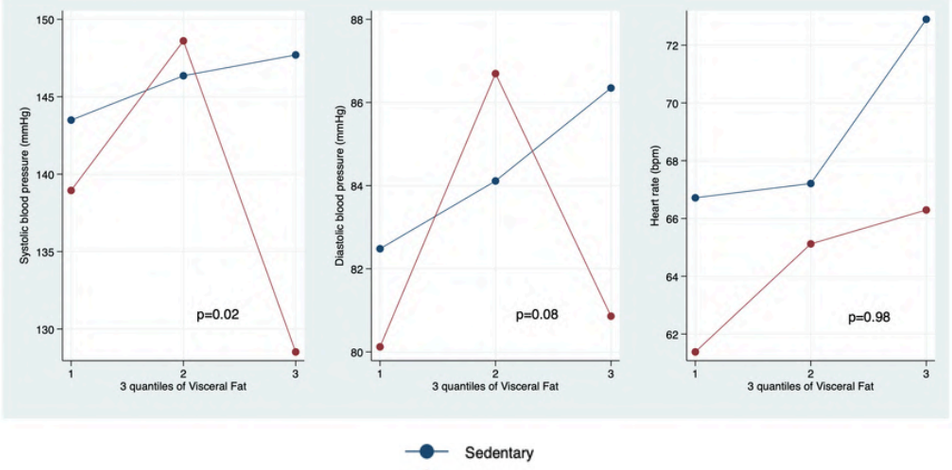
- Excess visceral fat is metabolically active and linked to chronic inflammation, insulin resistance, and autonomic dysregulation, which may elevate resting heart rate (RHR) and blood pressure (BP).
- Lifestyle factors such as physical activity could influence these autonomic effects in cardiac patients.
- To examine the association between visceral fat and markers of sympathetic activation, and to evaluate whether physical activity modifies these relationships.

METHODS

- **Cross-sectional study** (single visit)
- **203 consecutive** cardiology outpatients were assessed
- Visceral fat measured using the **OMRON BF511** device
- SBP, DBP, and RHR recorded **twice** in the clinostat position and averaged
- Demographic, clinical, pharmacologic, and lifestyle data (including physical activity) were collected
- Multivariable linear regression analyzed associations of visceral fat (continuous and tertiles) with RHR, SBP, and DBP, adjusting for age, sex, comorbidities, and medications
- Interaction terms tested effect modification by physical activity

RESULTS

- Mean age was 62.7 ± 12.5 years; 53% were male
- Patients in the **highest visceral fat tertile** showed significantly higher RHR (p=0.022), SBP (p<0.001), and DBP (p<0.001)
- After adjustment, visceral fat remained independently associated with **RHR** (β=0.71 bpm per SD; 95% CI 0.26–1.16; p=0.002) and **DBP** (β=0.47 mmHg per SD; p=0.012)
- Sport activity showed a significant **negative interaction** with visceral fat on **SBP** (β=–1.99 mmHg; p=0.021) and a trend toward attenuating the effect on DBP (β=–0.81 mmHg; p=0.085)



CONCLUSIONS

- Autonomic function of visceral fat: Visceral adiposity contributes to **higher RHR and DBP.**
- **Physical Activity**: Regular physical activity **attenuates** the effect of visceral fat on systolic, and potentially diastolic, blood pressure.
- **Clinical implication**: The findings show that regular exercise helps protect against heart and metabolic risks associated with visceral fat, supporting its strong promotion in cardiac outpatient care.

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