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INTRATHORACIC FAT IN HIV-INFECTED PATIENTS

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BACKGROUND: The impact of HIV infection or antiretroviral therapy on the intrathoracic fat compartment is unknown.

METHODS: Clinically stable HIV-infected adult patients irrespective of exposure to antiretroviral therapy and non-HIV-infected healthy volunteers, both without clinical evidence of body fat changes consistent with lipodystrophy and adjusted for age and gender, were recruited as cases and controls, respectively. Thoracic and abdominal fat assessed by computed tomography was compared between cases and controls.

RESULTS: There were nine (33%) women and 18 (67%) men in each group. Nineteen (70%) cases had been taking antiretrovirals for a median of 8 months [interquartile range (IQR): 6–11]. There were no significant differences in age, CD4 cells, intrathoracic and subcutaneous thoracic fat, and intra-abdominal and subcutaneous abdominal fat between cases without ($n=8$) and with ($n=19$) antiretroviral therapy, respectively. Median intrathoracic fat area was 6.8 (IQR: 5.6–10.5) cm^2 in cases and 5.6 (IQR: 3.9–6.7) cm^2 in controls ($P=0.025$). Median subcutaneous thoracic fat area was 41.4 (IQR: 15.1–79.2) cm^2 in cases and 102.5 (IQR: 56.3–122.0) cm^2 in controls ($P=0.001$, Wilcoxon Rank Sum test). Median intra-abdominal fat area was 41.1 (IQR: 13.2–61.9) cm^2 in cases and 55.8 (IQR: 41.9–92.3) cm^2 in controls ($P=0.056$, Wilcoxon Rank Sum test). Median subcutaneous abdominal fat area was 68.4 (IQR: 56.4–117.2) cm^2 in cases and 197.4 (IQR: 130.0–258.3) cm^2 in controls ($P<0.001$). The median ratio of intrathoracic to subcutaneous thoracic fat was 0.200 (IQR: 0.110–0.356) in cases and 0.056 (IQR: 0.038–0.088) ($P<0.001$) in controls. The median ratio of intra-abdominal to subcutaneous abdominal was 0.539 (IQR: 0.247–0.905) in cases and 0.344 (IQR: 0.257–0.495) in

controls ($P=0.163$). Intrathoracic fat was positively correlated with subcutaneous thoracic fat both in cases ($\rho 0.4$, $P=0.037$) and controls ($\rho 0.7$, $P=0.004$).

CONCLUSIONS: In HIV-infected adults without clinical evidence of lipodystrophy, intrathoracic fat content was higher than in healthy persons and positively correlated with intra-abdominal fat.

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