Anthropometry, DXA and leptin reflect subcutaneous but not visceral abdominal adipose tissue by MRI in 197 healthy adolescents - DTU Orbit (13/10/2018)

**Anthropometry, DXA and leptin reflect subcutaneous but not visceral abdominal adipose tissue by MRI in 197 healthy adolescents**

Background Abdominal fat distribution is associated with the development of cardio-metabolic disease independently of body mass index (BMI). We assessed anthropometry, serum adipokines, and DXA as markers of abdominal subcutaneous adipose tissue (SAT) and visceral adipose tissue (VAT) using magnetic resonance imaging (MRI). Methods We performed a cross-sectional study that included 197 healthy adolescents (114 boys) aged 10–15 years nested within a longitudinal population-based cohort. Clinical examination, blood sampling, DXA, and abdominal MRI were performed. SAT% and VAT% were adjusted to total abdominal volume. Results Girls had a higher SAT% than did boys in early and late puberty (16 vs. 13%, P<0.01 and 20 vs. 15%, P=0.001, respectively), whereas VAT% was comparable (7% in both genders, independently of puberty). DXA android fat% (standard deviation score (SDS)), suprailiac skinfold thickness (SDS), leptin, BMI (SDS), waist-to-height ratio (WHtR), and waist circumference (SDS) correlated strongly with SAT% (descending order: r=0.90–0.55, all P<0.001) but weakly with VAT% (r=0.49–0.06). Suprailiac skinfold was the best anthropometric marker of SAT% (girls: R2=48.6%, boys: R2=65%, P<0.001) and VAT% in boys (R2=16.4%, P<0.001). WHtR was the best marker of VAT% in girls (R2=7.6%, P=0.007). Conclusions Healthy girls have a higher SAT% than do boys, whereas VAT% is comparable, independently of puberty. Anthropometry and circulating leptin are valid markers of SAT%, but not of VAT%.

**General information**
State: Published
Organisations: Department of Applied Mathematics and Computer Science, Image Analysis & Computer Graphics, University of Copenhagen
Pages: 620-628
Publication date: 2017
Peer-reviewed: Yes

**Publication information**
Journal: Pediatric Research
Volume: 82
ISSN (Print): 0031-3998
Ratings:
BFI (2018): BFI-level 1
Web of Science (2018): Indexed yes
BFI (2017): BFI-level 1
Scopus rating (2017): CiteScore 2.91 SJR 1.304 SNIP 0.998
Web of Science (2017): Impact factor 3.123
Web of Science (2017): Indexed yes
BFI (2016): BFI-level 1
Scopus rating (2016): CiteScore 2.88 SJR 1.439 SNIP 1.048
Web of Science (2016): Impact factor 2.882
Web of Science (2016): Indexed yes
BFI (2015): BFI-level 2
Scopus rating (2015): CiteScore 2.76 SJR 1.36 SNIP 1.009
Web of Science (2015): Impact factor 2.761
BFI (2014): BFI-level 2
Scopus rating (2014): CiteScore 2.69 SJR 1.417 SNIP 1.042
Web of Science (2014): Impact factor 2.314
BFI (2013): BFI-level 2
Scopus rating (2013): CiteScore 2.87 SJR 1.368 SNIP 1.037
Web of Science (2013): Impact factor 2.84
ISI indexed (2013): ISI indexed yes
Web of Science (2013): Indexed yes
BFI (2012): BFI-level 2
Scopus rating (2012): CiteScore 3.05 SJR 1.385 SNIP 1.153
Web of Science (2012): Impact factor 2.673
ISI indexed (2012): ISI indexed yes
Web of Science (2012): Indexed yes
BFI (2011): BFI-level 2
Scopus rating (2011): CiteScore 2.72 SJR 1.181 SNIP 1.106
Web of Science (2011): Impact factor 2.7
ISI indexed (2011): ISI indexed yes
Web of Science (2011): Indexed yes
BFI (2010): BFI-level 1
Scopus rating (2010): SJR 1.294 SNIP 1.035
Web of Science (2010): Impact factor 2.803
BFI (2009): BFI-level 1
Scopus rating (2009): SJR 1.172 SNIP 0.895
Web of Science (2009): Indexed yes
BFI (2008): BFI-level 1
Scopus rating (2008): SJR 0.918 SNIP 0.974
Scopus rating (2007): SJR 0.719 SNIP 1.032
Scopus rating (2006): SJR 0.685 SNIP 1.023
Scopus rating (2005): SJR 0.881 SNIP 1.156
Web of Science (2005): Indexed yes
Scopus rating (2004): SJR 1.153 SNIP 1.122
Scopus rating (2003): SJR 1.135 SNIP 1.148
Scopus rating (2002): SJR 0.898 SNIP 1.026
Scopus rating (2001): SJR 0.945 SNIP 1.212
Scopus rating (2000): SJR 0.865 SNIP 1.16
Scopus rating (1999): SJR 0.795 SNIP 1.134
Original language: English
DOIs:
10.1038/pr.2017.138
Source: FindIt
Source-ID: 2371398418
Research output: Research - peer-review › Journal article – Annual report year: 2017