

Supplementary material

Kempiński R, Neubauer K, Hałoń A, et al. Evaluation of adipose tissue and liver radiodensity in overweight or obese patients with nonalcoholic fatty liver disease. Pol Arch Intern Med. 2019; 129: 354-356. doi:10.20452/pamw.4457

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Table S1. Definition of non-alcoholic steatohepatitis components for calculation of Nonalcoholic fatty liver disease Activity Score

| Item | Score | Extend |
|-----------------------|-------|----------------------------------|
| Steatosis | 0 | <5% |
| | 1 | 5-33% |
| | 2 | >33%-66% |
| | 3 | >66% |
| Hepatocyte ballooning | 0 | None |
| | 1 | Few balloon cells |
| | 2 | Many cells/ prominent ballooning |
| Lobular inflammation | 0 | No foci |
| | 1 | <2foci/200x |
| | 2 | 2-4foci/200x |
| | 3 | >4foci/200x |

NAS score 5-8: NASH; NAS score 0-2: no NASH; NAS score 3-4: borderline cases

NASH, non-alcoholic stetohepatitis

NAS, Nonalcoholic fatty liver disease Activity Score

Table S2. Selected clinical data of patients in the study group (44 patients)

| | |
|--|---------------|
| Age (years) ^a | 46.1 (10.9) |
| Sex (female/male) | 13/31 |
| BMI, kg/m ^{2a} | 31.2 (4.2) |
| Waist circumference, cm ^a | 107.5 (9.6) |
| WHR ^a | 1.0 (0.04) |
| WHtR ^a | 0.61 (0.06) |
| ALT (<35 U/I) ^a | 73.3 (33.6) |
| AST (<31 U/I) ^a | 53.0 (26.5) |
| GGT (<38 U/I) ^a | 82.8 (47.6) |
| Alkaline phosphatase (30-120 U/I) ^a | 96.4 (37.1) |
| TG (<1.69 mmol/l) ^a | 233.2 (140.1) |
| HOMA-IR ^a | 2.54 (2.54) |
| Hypertension ^b | 25 (56.8%) |
| Diabetes ^b | 13 (29.5%) |
| Dyslipidemia ^b | 19 (43.2%) |
| Metabolic syndrome ^b | 17 (38.6%) |

ALT, alanine transaminase; AST, aspartate transaminase; BMI, body mass index; GGT, gamma-glutamyl-transferase; HOMA-IR, homeostasis model assessment of insulin resistance, TG triglycerides; WHR, waist to hip ratio; WHtR, waist to height ratio

^aMean (SD)

^bN and percentage

Table S3. Visceral, subcutaneous adipose tissue and visceral/subcutaneous adipose tissue ratio in patients with non-alcoholic fatty liver disease. Mean (SD)

| | VAT, mL | SAT, mL | VAT/SAT ratio |
|-------|-------------|---------------|---------------|
| Total | 2,268 (826) | 3,081 (1,238) | 0.83 (0.38) |
| Women | 2,364 (676) | 3,724 (718) | 0.65 (0.26) |
| Men | 2,236 (889) | 2,808 (1,320) | 0.9 (0.39) |

SAT, subcutaneous adipose tissue; VAT, visceral adipose tissue

Table S4. Pearson's correlation coefficient for visceral/subcutaneous adipose tissue and selected anthropometric parameters of patients with non-alcoholic fatty liver disease.

| | VAT+SAT | VAT | SAT |
|-------------------------|--------------|--------------|--------------|
| Weight, kg | 0.63 P<0.001 | 0.35 P=0.02 | 0.59 P<0.001 |
| BMI, kg/m ² | 0.73 P<0.001 | 0.41 P<0.001 | 0.67 P<0.001 |
| Waist circumference, cm | 0.72 P<0.001 | 0.49 P<0.001 | 0.61 P<0.001 |
| Hip circumference, cm | 0.63 P<0.001 | 0.29 P=0.06 | 0.65 P<0.001 |
| Waist to hip ratio | 0.23 P=0.17 | 0.42 P=0.006 | 0.04 P=0.82 |

For abbreviations see Table S3

Table S5. Correlation coefficient for visceral, subcutaneous adipose tissue, visceral/subcutaneous adipose tissue ratio and selected histological parameters of patients with non-alcoholic fatty liver disease.

a Pearson's correlation coefficient, b Spearman's correlation coefficient

| | VAT+SAT | VAT | SAT | VAT/SAT ratio |
|---------------------------------------|--------------|-------------|--------------|---------------|
| Steatotic hepatocytes, % ^a | 0.22 P=0.20 | 0.11 P=0.50 | 0.23 P=0.18 | -0.13 P=0.43 |
| NAS, 0-8 ^b | -0.04 P=0.80 | 0.23 P=0.14 | -0.10 P=0.55 | 0.29 P=0.08 |
| Fibrosis, 0-4 ^b | 0.47 P=0.004 | 0.28 P=0.09 | 0.52 P=0.001 | -0.25 P=0.13 |

For abbreviations see Table S1 and S3

Table S6. Utility of liver radiodensity testing for evaluation of moderate to severe hepatocyte steatosis.

| Statistic | value | 95% CI |
|---------------------------|--------------|------------------|
| Sensitivity | 89.47% | 66.86% to 98.70% |
| Specificity | 71.43 % | 47.82% to 88.72% |
| Positive Likelihood Ratio | 3.13 | 1.57 to 6.27 |
| Negative Likelihood Ratio | 0.15 | 0.04 to 0.56 |
| Positive Predictive Value | 73.91% | 51.59% to 89.77% |
| Negative Predictive Value | 88.24 % | 63.56% to 98.54% |

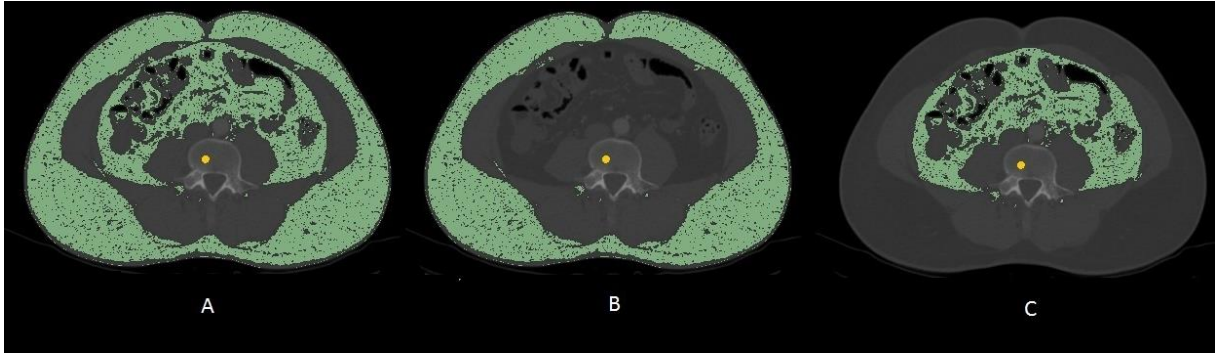


Figure S1. Adipose tissue in computed tomography. A- total visceral tissue. B- subcutaneous adipose tissue. C- visceral adipose tissue.

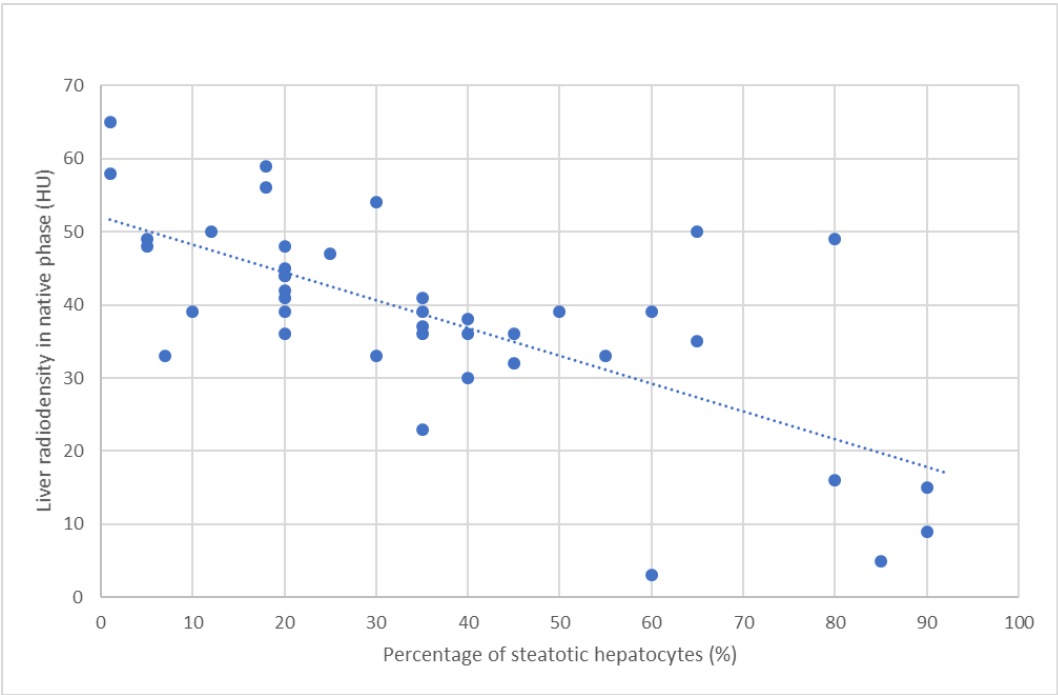


Figure S2. Liver radiodensity in native phase of computed tomography in correlation with % of steatotic hepatocytes.