Supporting information for the manuscript:

Elevated transaminases potentiate the risk for emerging dysglycemia in children with overweight and obesity

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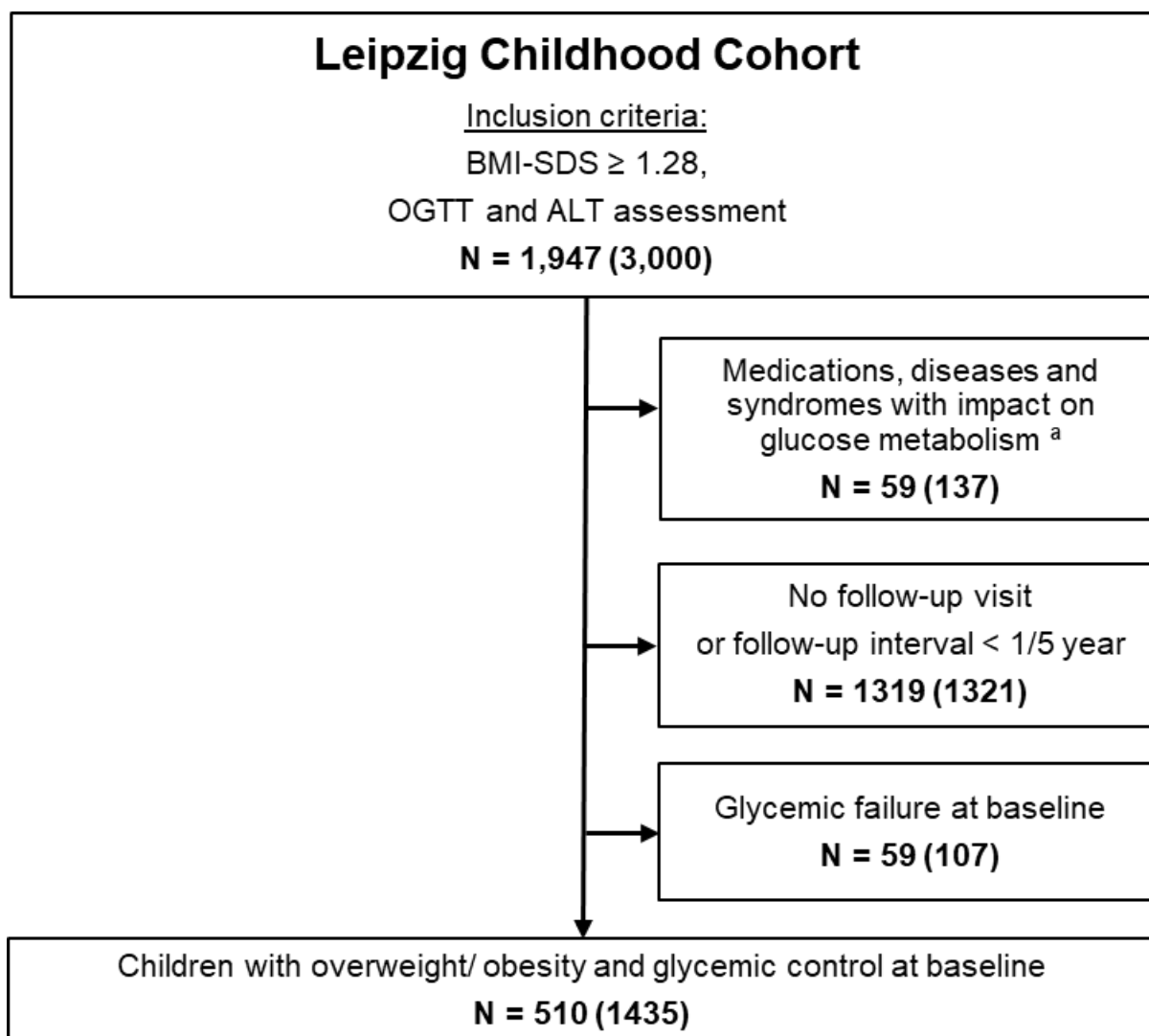
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Figure S1: Selection of study population. We included all children and adolescents with overweight or obesity from the Leipzig Childhood Cohort, who underwent OGTT and ALT assessment. [a] Participants with intake of medications affecting glucose metabolism (insulin, antipsychotics, retinoids, systemic glucocorticoids, growth hormone, immunosuppressives), as well as diseases affecting glucose metabolism (type 1 diabetes, rheumatic diseases, malabsorption, pancreatitis, spinal muscular atrophy, congenital adrenal hyperplasia, congenital metabolic diseases, nephrotic syndrome, cancer) and syndromes (Prader-Willi, Bardet-Biedl, Trisomy 16, Trisomy 21, Beckwith-Wiedemann, Ehlers-Danlos, Trichorhinophalangeal, Kabuki, Poland, Noonan, Klinefelter, Microdeletion 15q13.3) were excluded from the analyses.

Abbreviations: *ALT*, alanine aminotransferase; *BMI-SDS,* standard deviation score of body mass index; *N*, number of participants (number of observations); *OGTT,* oral glucose tolerance testing.
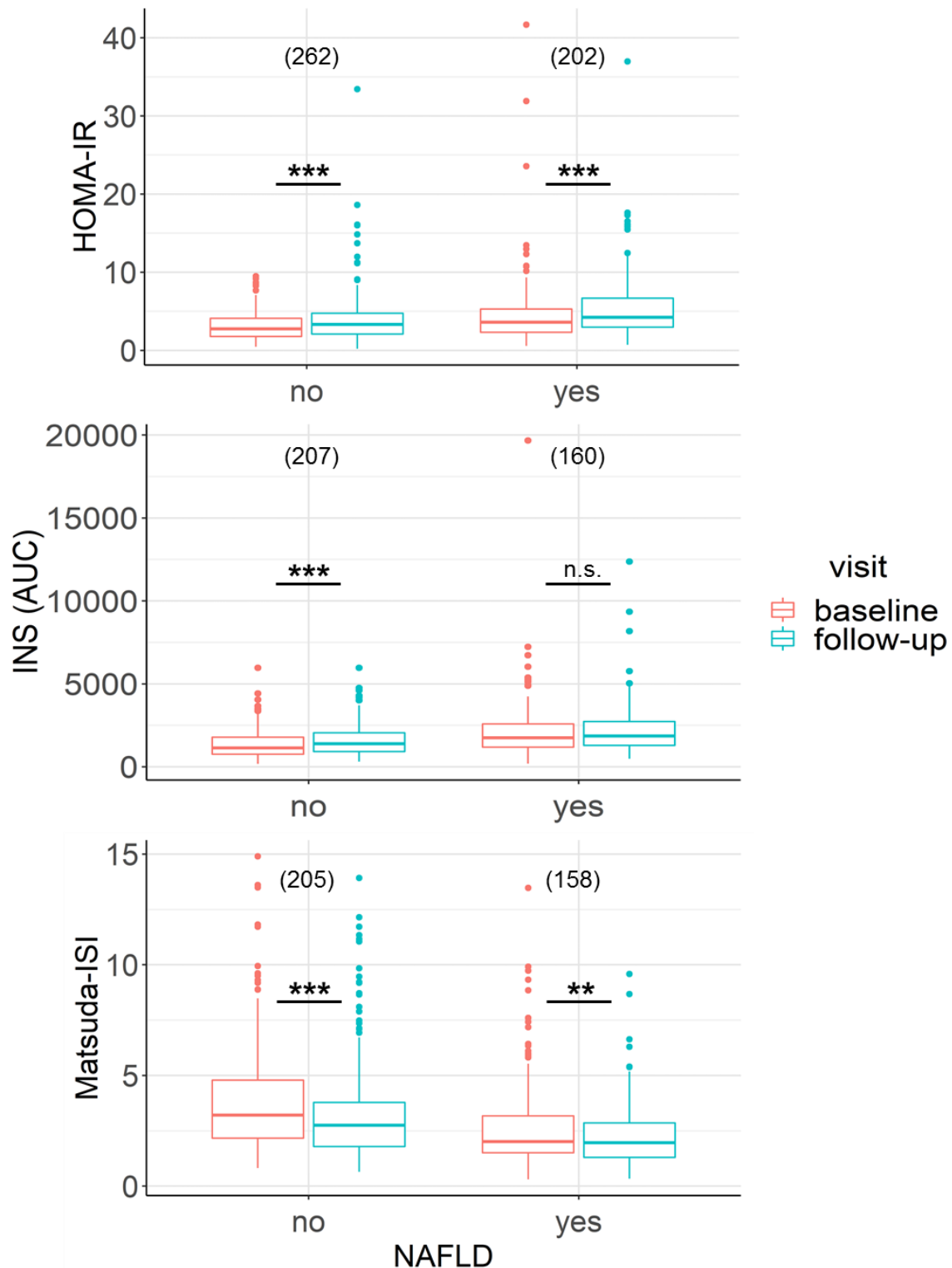
Figure S2: Insulin resistance over time. We compared measures of insulin resistance and sensitivity among participants with elevated transaminases (NAFLD=yes) and with normal range transaminases (NAFLD=no) between the baseline visit and the last follow-up visit. Only participants without metformin intake and data available at both visits were selected prior to this analysis, the respective number of participants is indicated in brackets above each plot. Hepatic insulin resistance (HOMA-IR) diminishes over time among children with overweight/obesity and elevated ALT, whereas peripheral insulin resistance (INS_{AUC}) and peripheral insulin sensitivity (Matsuda-ISI) remains stable or only worsens slightly within the elevated ALT-group. Statistical analysis was performed with a two-sided paired t-test after logarithmic transformation. ** $p < 0.01$; *** $p < 0.001$; *n.s.*, not significant; *HOMA-IR*, homeostasis model assessment for insulin resistance, INS_{AUC}, area under the insulin curve during OGTT, *Matsuda-ISI*, insulin sensitivity index according to Matsuda during OGTT.

Table S1: Subgroups of dysglycemia

Outcome	N	Portion of total (%)
Dysglycemia (total)	62	100
Metformin intake	29	46.8
IFG + IGT	29	46.8
IFG + DGT	2	3.2
DFG + IGT	1	1.6
DFG + DGT	1	1.6

Abbreviations: *DFG*, diabetic fasting glucose, *DGT*, diabetic glucose tolerance, *IFG*, impaired fasting glucose, *IGT*, impaired glucose tolerance