

Is non-alcoholic fatty liver disease less frequent among women with Prader-Willi syndrome?

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Objective: Patients with Prader-Willi syndrome (PWS) have been hypothesized to be at lower risk of non-alcoholic fatty liver disease (NAFLD) because of higher insulin sensitivity. However, PWS patients have a peculiar body composition, i.e. higher fat mass and lower fat-free mass, which may confound such associations. We evaluated whether NAFLD is less frequent in PWS than in non-PWS women matched on percent body fat (PBF).

Methods: PBF was measured by dual-energy X-ray absorptiometry. Liver fat was assessed by ultrasonography. Insulin sensitivity and beta-cell function were evaluated by oral glucose tolerance testing. Coarsened exact matching (CEM) was used to match PWS and non-PWS women on PBF. General and generalized linear models taking CEM into account were used to perform comparisons between PWS and non-PWS women.

Results: 20 women with PWS were matched to 27 women without PWS on the basis of PBF (mean 53 vs. 54%, $p = 0.6$). Insulin sensitivity and beta-cell function were similar in the two groups. However, the prevalence of NAFLD was 25% in PWS versus 59% in non-PWS women ($p = 0.04$). Conclusion: NAFLD is less frequent in PWS than in non-PWS women but this finding is not associated with higher insulin sensitivity.

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