

**Lower DHEA-S Levels Predict Disease and Worse Outcomes in Post-Menopausal Women
with Idiopathic, Connective Tissue Disease- and Congenital Heart Disease-Associated
PAH**

Supplementary Material

Table S1. Generalized estimating equations of hormone levels by case status

Sex hormone	PAH Case	Control	P-value
Estradiol, pg/mL	7.2 6.2, 8.5	6.0 5.3, 6.8	0.02
DHEA-S, µg/dL	25.1 19.5, 32.4	61.9 54.0, 71.0	<0.001
Total testosterone, ng/dL	4.2 3.5, 5.1	8.5 7.4, 9.7	<0.001
Bioavailable testosterone, ng/dL	1.3 1.1, 1.5	2.3 2.0, 2.6	<0.001
Progesterone, ng/mL	0.1 0.1, 0.1	0.1 0.1, 0.1	0.29
SHBG, nmol/L	44.6 41.0, 48.5	60.8 55.0, 67.2	<0.001

Data are medians with 95% confidence intervals. Matched on age within 5 years and body mass index (BMI) within 4 kg/m² and adjusted for age and BMI. DHEA-S=dehydroepiandrosterone-sulfate, SHBG=sex hormone-binding globulin. Lognormal distribution was used.

SUPPLEMENTARY FIGURE LEGENDS

Figure S1. Adjusted parameter estimates for hormone levels by case status after matching for age and body mass index. Panel a) total testosterone (T); Panel b) bioavailable testosterone (BioT); Panel c) progesterone; Panel d) sex hormone binding globulin (SHBG). Boxes represent medians and whiskers represent 95% confidence interval. PAH=pulmonary arterial hypertension.

Figure S2. Adjusted parameter estimates for hormone levels by functional class in PAH cases. Panel a) total testosterone (T); Panel b) sex hormone binding globulin (SHBG). Boxes represent medians and whiskers represent 95% confidence interval. P value=test for trend across category.

Figure S3. Adjusted parameter estimates for hormone levels by degree of right ventricular dilatation (Panels a, c) and dysfunction (Panels b, d) on echocardiogram in PAH cases. Panels a, b) total testosterone (Total T); Panels c, d) sex hormone binding globulin (SHBG). Boxes represent medians and whiskers represent 95% confidence interval. P value=test for trend across category. RV=right ventricle.