Prevalence of adrenal androgen excess in patients with the polycystic ovary syndrome (PCOS).

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Prevalence of adrenal androgen excess in patients with the polycystic ovary syndrome (PCOS).

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**Abstract**

**OBJECTIVE:** To determine the prevalence of adrenal androgen (AA) excess in the polycystic ovary syndrome (PCOS) using age- and race-specific normative values.

**DESIGN:** Cross-sectional observational study.

**PATIENTS:** One hundred and eight-two (88 Black and 94 White) age-matched healthy eumenorrhoeic nonhirsute women (controls) and 213 (27 Black and 186 White) women with PCOS were recruited.

**MEASUREMENTS:** Total testosterone (T), free T, androstenedione (A4), dehydroepiandrosterone sulfate (DHEAS) and SHBG, as well as fasting insulin and glucose, were measured in plasma.

**RESULTS:** The mean total T, free T, A4, DHEAS and body mass index (BMI) were higher in women with PCOS than in control women. DHEAS levels were significantly lower in Black controls than White controls, whereas fasting insulin and BMI were higher in Black controls. In control and Black PCOS women, DHEAS levels did not correlate with BMI, waist-to-hip ratio (WHR) or fasting insulin. Among White women with PCOS, DHEAS levels correlated negatively with BMI and fasting insulin. DHEAS levels decreased similarly with age in control and PCOS women of either race. For each race and age group the upper 95% normative values for log DHEAS was calculated, and the
number of PCOS subjects with log DHEAS values above this level were assessed. The prevalence of supranormal DHEAS levels was 33.3% and 19.9%, respectively, among Black and White women with PCOS.

CONCLUSIONS: The prevalence of DHEAS excess is approximately 20% among White and 30% among Black PCOS patients, when using age- and race-adjusted normative values. This study also indicates that the age-associated decline in DHEAS levels is observable and similar in both control and PCOS women, regardless of race. While BMI and fasting insulin had little impact on circulating DHEAS levels in healthy women, among White PCOS patients these parameters were negatively associated with circulating DHEAS levels.

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